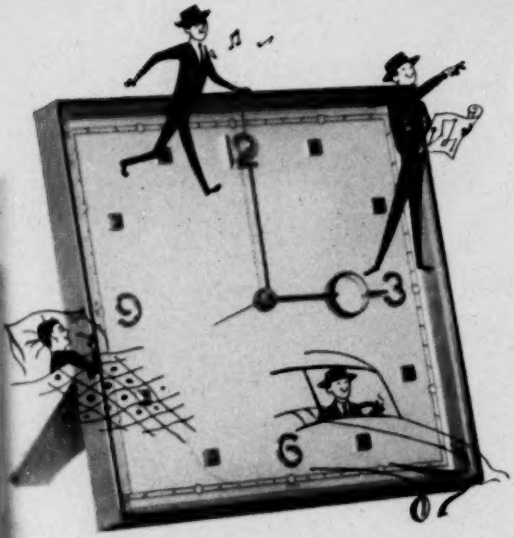
# MODERN MEDICINE



For your allergic patients... the antihistamine that gives

# 'Round-the-clock relief from 4 small doses

Decapryn's *long-lasting relief*,[1] combined with *low milligram dosage*,[2] makes it the ideal antihistamine for treating difficult allergies, or patients who have not responded to other drugs.

1. "Symptoms were relieved from 4 to 24 hours after the administration of a single dose of Decapryn—"... Sheldon, J.M. Et al: Univ. Mich. Hosp. Bull. 14:13-15 (1948)
2. "It was found that 12.5 mg. could be given during the day with comparatively few side reactions and yet maintain good clinical results—"... MacQuiddy, E.L.: Neb. State M.J. 34:123 (1949)

## DECAPRYN®

The long-lasting, low-dosage prescription antihistamine

**DECAPRYN (DOXYLAMINE) SUCCINATE**
**Available on prescription only,** as pleasant-tasting liquid, or tablets (12.5 mg., 25 mg.)

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1828
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**Rhus Desensitization**

# POISON-IVY DERMATITIS

**TOOLS**—(1) single-dose vial of IVYOL® containing purified active principle of *Rhus toxicodendron* (1:1,000) in sterile olive oil; (2) small syringe fitted with 24-gauge needle.

## Prophylaxis and Treatment

**TIMING** *For Prophylaxis:* one vial (0.5 cc.) intramuscularly, each week for four weeks.

Susceptible persons should be desensitized in the spring—well before the season begins.

*For Treatment:* in average cases, one vial (0.5 cc.) intramuscularly, every 24 hours until symptoms are relieved.

In case of unusually great susceptibility, as shown by severe or extensive eruptions from slight exposure, the amount of active principle contained in one vial, given in one dose, might aggravate the symptoms. It is advisable, therefore, in cases of this type, to begin with an initial dose of 0.1 to 0.25 cc. Subsequent doses are increased or repeated as indicated by the reaction.

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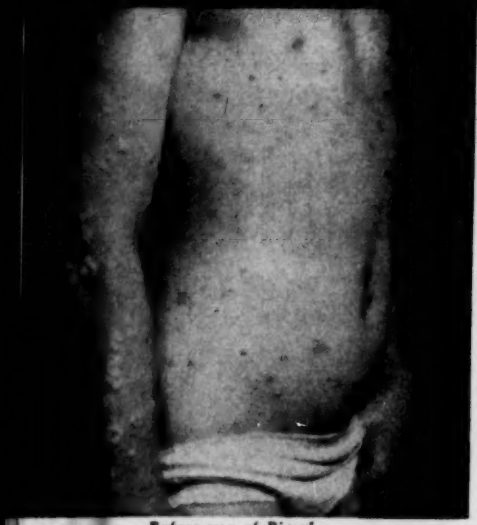
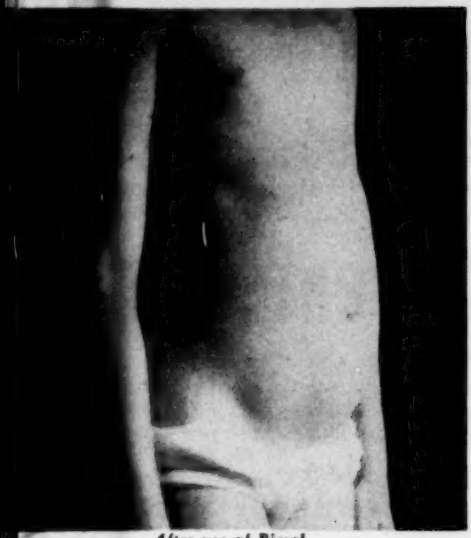
# IVYOL®

**Poison Ivy Extract**

*packages of one and four 0.5-cc. vials*



*Before use of Riasol*



*After use of Riasol*

# *Frustrated by* PSORIASIS

# RIASOL

## *Brings Hope*

Psychiatrists have found that disfiguring skin diseases like psoriasis are common causes of serious neuroses. Nothing can cause more psychological frustration to a young man or woman than the ugly patches of psoriasis.

Psychotherapy will not help so long as the patient suffers humiliation. Therefore it is important to treat the skin condition with **RIASOL.**

Many physicians are prescribing **RIASOL** for psoriasis because their own experience has proved its value. In a research study conducted in an eastern clinic, it was found that **RIASOL** clears or improves the skin condition of psoriasis in 76% of cases.

**RIASOL** contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, nonstaining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin, invisible, economical film suffices. No bandages required. After one week adjust to patient's progress.

**RIASOL** is ethically promoted. Available in 4 and 8 fld. oz. bottles, at pharmacies or direct.

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## *not necessarily . . .*

Tedral, taken at first sign of attack, often forestalls severe symptoms.

***in 15 minutes***...Tedral brings symptomatic relief with a definite increase in vital capacity. Breathing becomes easier as Tedral relaxes smooth muscle, reduces tissue edema, provides mild sedation.

***for 4 full hours***...Tedral maintains more normal respiration for a sustained period—not just a momentary pause in the attack.

***Prompt and prolonged relief*** with Tedral can be initiated any time, day or night, whenever needed without fear of incapacitating side effects.

*Tedral provides:*

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| theophylline | 2 gr. |
| ephedrine | 3/8 gr. |
| phenobarbital | 1/8 gr. |

*in boxes of 24, 120 and 1000 tablets*

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# MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT


# Octofen

## A POWERFUL FUNGICIDE

### Not a "Frightening Concentration!"

Anti-fungal agents which are only fungistatic must be used in such frightening concentrations for results that often patients are more frightened than the fungi! Too, overpowering concentrations may lead to greater incidence of irritation, more frequent relapse or reinfection.

Victor of scores of clinical tests, OCTOFEN is high in potency, low in concentration—outstanding in efficacy, no sensitization or irritation to date.

***If you have not yet tried OCTOFEN, you have yet to give athlete's foot the "full treatment!"***

**Kills fungi on contact.**

**Has cleared cases in as short a time as 1 week.**

**Reduces, even eliminates danger of over-treatment dermatitis.**

**No irritants, heavy metals, tars, oils, phenols, alkalies.**

**Potent, nonirritating, greaseless.**

***Let OCTOFEN prove itself on your most stubborn case —No obligation or expense!***

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Gentlemen:
Please send me free a clinical sample package of OCTOFEN—sufficient to test its efficacy—and descriptive literature.

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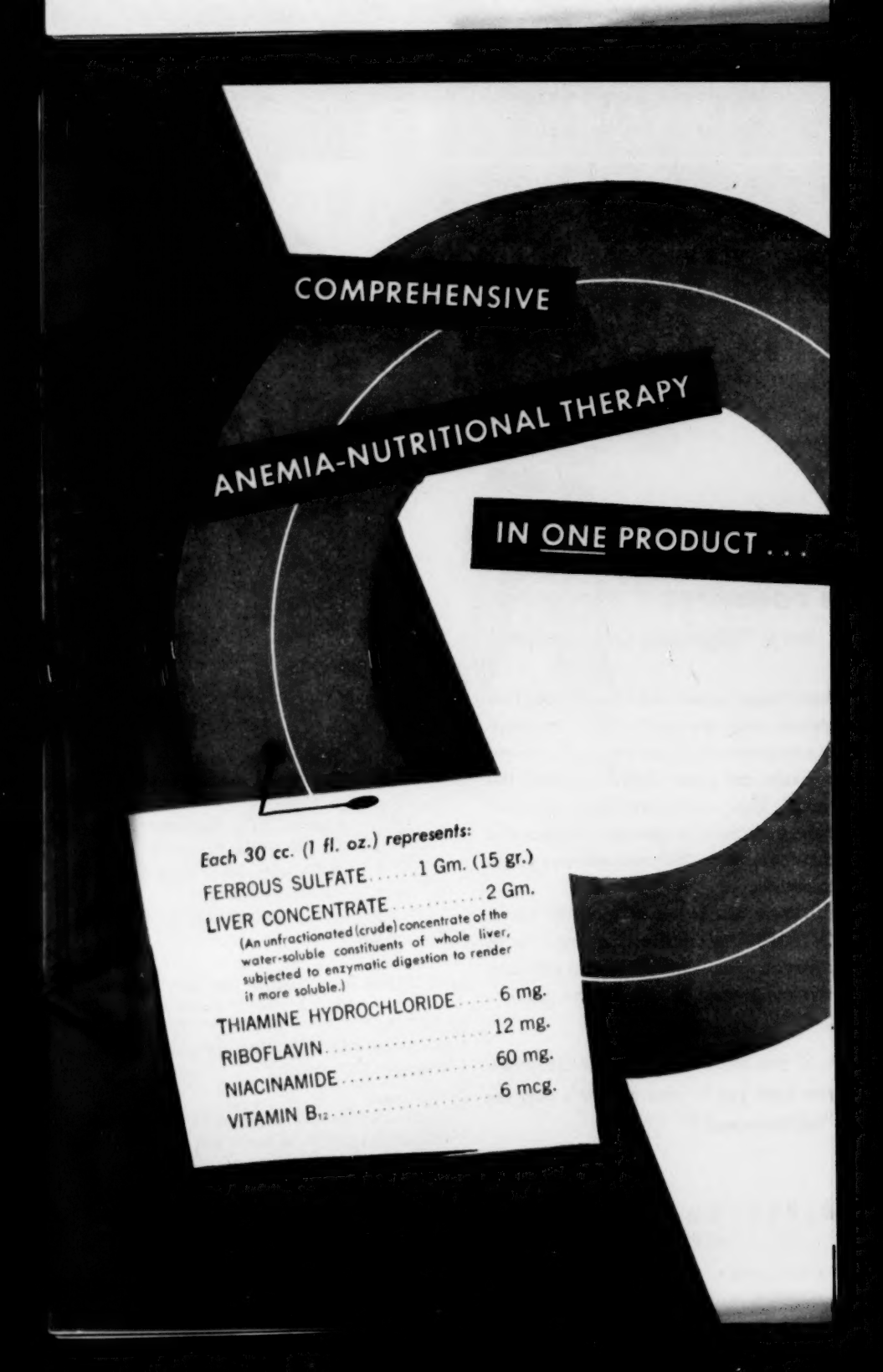
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Each 30 cc. (1 fl. oz.) represents:
FERROUS SULFATE ..... 1 Gm. (15 gr.)
LIVER CONCENTRATE ..... 2 Gm.
(An unfractionated (crude) concentrate of the water-soluble constituents of whole liver, subjected to enzymatic digestion to render it more soluble.)
THIAMINE HYDROCHLORIDE ..... 6 mg.
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VITAMIN $B_{12}$ ..... 6 mcg.

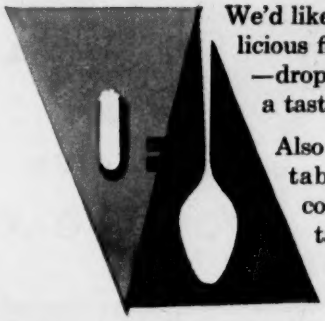
Supplies these important hematopoietic-nutritional factors in a well-balanced formula:

**IRON IN FERROUS FORM**—chemically stabilized, well utilized.

**LIVER CONCENTRATE**—in unfractionated (crude) form, preserving all the water-soluble erythropoietic and nutritional principles of whole liver . . . *enzymatically digested*, providing maximum solubility to assure assimilation.

**B VITAMINS**—including vita[illegible]$_{12}$.

# Hepatinic



We'd like to hav[illegible]u try the delicious flavor o[illegible]epatinic elixir —drop us a card and we'll send a tasting sample.

Also available in convenient tablet form:—each sugar coated orange tablet containing the equivalent of 5 cc. (one teaspoonful) of the Elixir.

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***An Aqueous-Alcoholic Extract for Prevention and Treatment***

*Promptly Absorbed—Assuring Prompt Results*

***Available in Packages of four 1 cc. vials***

**THE NATIONAL DRUG COMPANY, Philadelphia 44, Pa.**

*More than half a century of service to the medical profession*

# TABLE *of* CONTENTS



*for*

*May 1*

*1951*


Modern Medicine

Vol. 19, No. 9


THE MAN ON THE COVER is Dr. A. Earl Walker, Neurosurgeon-in-Chief at Johns Hopkins Hospital, Baltimore. For ten years Dr. Walker was professor of Neurosurgery at the University of Chicago and, since 1947, has held the same position at Johns Hopkins University. He is an active participant in several scientific organizations, including the Association for Research in Nervous and Mental Diseases, Harvey Cushing Society, American Academy of Neurological Surgery, Society of Neurological Surgeons, American College of Surgeons, American Neurological Association, and the American Association of Neuropathologists. The report "Head Injuries" on page 87 is based upon his paper "Practical Considerations in the Treatment of Head Injuries" which appeared in the initial issue of the new journal, *Neurology*.

# Contents for May 1 1951

CONTINUED


## With use of ARGYROL in Para-nasal Infections there is

# No rebound congestion
# No CNS stimulation

There is no hang-over of compensatory congestion to be dealt with . . . a situation embarrassingly familiar to many who have had experience with the usual strong vasoconstrictors.

ARGYROL does its job directly, simply and well . . . with a rare combination of decongestive, demulcent, detergent and bacteriostatic actions. Its use means the speediest possible return of affected nasal membranes to normal fuctioning.


Decongestion and Relief Without Rebound

Decongestion Without Dysfunction

### The ARGYROL Technique

1. The nasal meatus . . . by 20 per cent ARGYROL instillations through the nasolacrimal duct.
2. The nasal passages . . . with 10 per cent ARGYROL solution in drops.
3. The nasal cavities . . . with 10 per cent ARGYROL by nasal tamponage.

### Its Three-Fold Effect

1. Decongests without irritation to the membrane and without ciliary injury.
2. Definitely bacteriostatic, yet non-toxic to tissue.
3. Stimulates secretion and cleanses, thereby enhancing Nature's own first line of defense.

Specify the Original **ARGYROL** Package

***—the medication of choice in treating para-nasal infection.***

**Made only by the**
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# *Contents for May 1 1951*

CONTINUED




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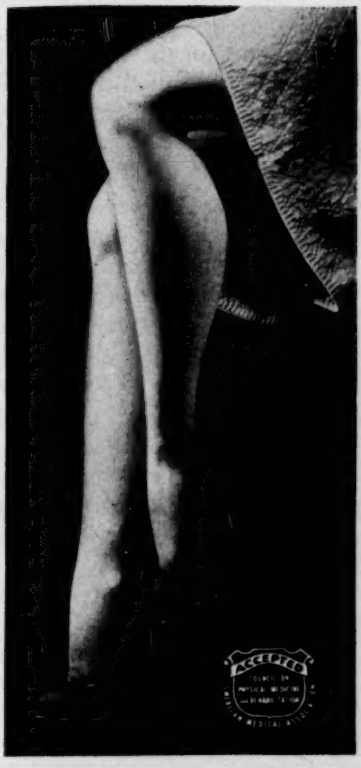
# The elastic stocking that pampers a woman's pride

## *The fact that they "don't show" is one of the reasons more women wear Bauer & Black ELASTIC STOCKINGS*

Almost any woman becomes concerned about her appearance when advised to wear an elastic stocking. Her cooperation is more readily secured when you recommend Bauer & Black Elastic Stockings.

They have features of utmost importance to a woman. Unobtrusive appearance. Sheerness. Fashioning. Neutral tone. When assured that Bauer & Black Elastic Stockings actually flatter her legs, your patient will listen with understanding to your explanation of their basic advantages. They provide the firm support needed for surface varicose veins. Their two-way stretch insures smooth, uniform pressure. The open-toe design prevents cramping of the foot, puts the pressure where needed, without discomfort.




BAUER & BLACK

## Elastic stockings

*See the Bauer & Black Exhibits, Booths K-18 and K-20, at the A.M.A. Convention, Atlantic City.*

BAUER & BLACK, DIVISION OF THE KENDALL COMPANY, 2500 S. DEARBORN STREET, CHICAGO 16, ILL.

# LETTER FROM THE EDITOR

***Dear Reader:***

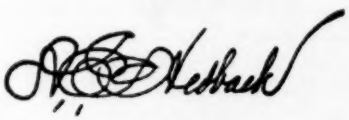
In our mail this morning was a letter which read, "Let's have more articles like the one by Dr. A. You can skip reports such as Dr. B's which are over the heads of us run of the mill practitioners."

To take up the last point first, we do not believe in the existence of a group that could be termed "run of the mill practitioners." The "run of the mill doctor" and the "average man" are in the same category, both are figments of the imagination of the statistically inclined. Our readers are individuals, defying classification. Each has his likes and dislikes which may be dissimilar to any other man's. And each reader is equally to be prized.

And now for the "let's have more" suggestion. One man wants more Surgery, another more Pediatrics, a third would like to see a big section devoted to Ophthalmology. Each reader, in short, would like to have *Modern Medicine* emphasize his particular interest. This is only natural.

Our editors, however, strive to produce a journal with universal appeal. We have recently expanded both the Editorial and Consultant boards of *Modern Medicine* so that every interest is represented. The expanded panel of experts assures selective reporting in every field and, at the same time, guarantees a balanced coverage that provides the reader with a truly representative picture of what is new in the entire field of medicine.

Thus the general practitioner and the specialist alike are given an up-to-date report on their particular interests and are also presented with significant developments in the other specialties. This twofold advantage makes *Modern Medicine* different from all the other journals the doctor receives.



EDITOR

## for emotional equilibrium in the menopause

BENZEBAR* not only frequently alleviates the depression you see in menopausal patients, but also the nervousness.

'BENZEBAR' is a logical combination of Benzedrine* Sulfate (racemic amphetamine sulfate, S.K.F.) and phenobarbital. Thus, it provides the unique improvement of mood characteristic of 'Benzedrine' Sulfate and the mild sedation of phenobarbital. These two established agents work together to stabilize the patient's emotions and to restore her zest for life and living. ***Smith, Kline & French Laboratories, Philadelphia***

# Benzebar

**for the depressed and nervous patient**

*'Benzedrine' and 'Benzebar' T.M. Reg. U.S. Pat. Off.

# Correspondence

*Communications from the readers of* MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

## Mucosal Injections for Vaginitis

TO THE EDITORS: You may be interested to know that vaginal discharges, whether owing to *Trichomonas vaginalis*, gonorrhea, or *Monilia*, subsided or disappeared completely in 18 of 20 cases when 400,000 units of crystalline procaine penicillin in 20 cc. of distilled water was injected in the vaginal mucosa bilaterally.

This can be done with a long 22-gauge needle without injury to the vaginal mucosa. Usually 1 injection will be sufficient. Only 2 patients in the 20 required second injections.

C. DURHAM GRANDY, M.D.
Durham, N.C.

¶Submucosal injections of penicillin were found useful by Dr. Jean-Robert Debray, too, in treatment at St. Louis Hospital in Paris of women with gonorrhea resistant to other penicillin therapy (*Modern Medicine*, Apr. 15, 1950, p. 76).—Ed.

## Violation of Principle

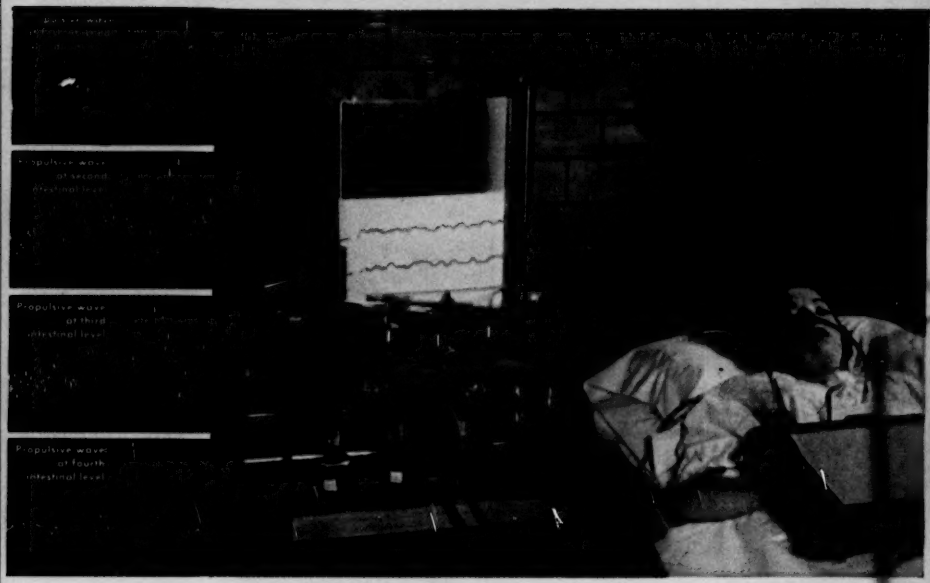
TO THE EDITORS: The State of Maryland has officially approved what I believe to be the first panel type of Socialized Medicine in the United States. I refer to the Medical Indigent Care Program for Baltimore City. Hospitals in Baltimore, both private and quasi-public and the state owned and operated University Hospital, have been authorized by their legislature to contract with Maryland licensed physicians for their services to the indigent of Baltimore. The doctor receives $7 per year for each name on his panel, regardless of the number of visits required. The hospital receives $10 for each name on its panel, regardless of the number of visits.

As you know, the doctor is not in the position of the hospital which has the legislature to make up its deficit at the end of the year.

More important is violation of the principle that there be no third party intervention between doctor and patient. According to our state laws, the only exceptions are our Medical and Chirurgical Faculty and, under limited conditions, our Health Commissioners. At least this was the case until our courts (46 Atl. 2d 298) ruled that so-called "private or quasi-public" hospitals could hire or fire any doctor on their staff.

Under such a ruling, similar practice of medicine by federal government bodies could be started at any time without the necessity of Congressional action.

Such a practice might be instituted at once and be financed by an intra-departmental rearrangement of funds from the Marine Hospital of the



# *Spasmolysis at its Best . . . by*

# LIVING TEST

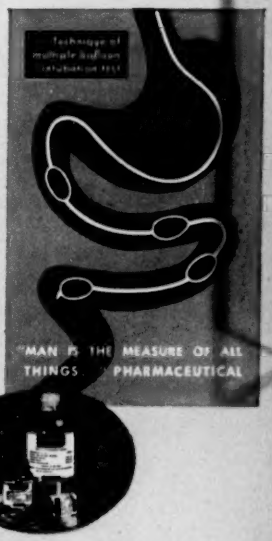
Intubation studies[1,2,3] increasingly confirm the findings of controlled clinical tests and broad professional experience; they dramatically demonstrate the *marked superiority of natural belladonna alkaloids* over the synthetics in relieving smooth muscle spasm.[2,3]

Donnatal employs precise proportions of the principal alkaloids of belladonna, together with a minimal phenobarbital dosage, to intensify the belladonna effects and help correct emotional factors contributing to the provocation of spasm.

**REFERENCES:** 1. Chapman, W. P., Rowlands, E. N., and Jones, C. M.: New England J. Med., 243:1, 1950. 2. Kramer, P. and Ingelfinger, F. J.: Med. Clin. North America, 32:1227, 1948. 3. Posey, E. L., Bargen, J. A., and Dearing, W. H.: Gastroenterol., 11:344, 1948.

**FORMULA:** Each tablet, each capsule, and each 5 cc. (1 teaspoonful) of Elixir, contains 0.1037 mg. hyoscyamine sulfate, 0.0194 mg. atropine sulfate, 0.0065 mg. hyoscine hydrobromide, and 16.2 mg. (¼ gr.) phenobarbital.

**A. H. ROBINS CO., INC., RICHMOND 20, VA.**




# Donnatal®

Robins

**TABLETS • CAPSULES • ELIXIR**

**WHENEVER and WHEREVER spasm of smooth muscle causes pain or dysfunction**

# First aid for the *"digestive casualty"*

Entozyme greatly simplifies a broad therapeutic approach to many often complex disturbances of the gastro-intestinal tract, through its provision of potent amounts of the principal digestive enzymes: pepsin, pancreatin (with its lipase, amylase, and trypsin), and bile. Its special "tablet-within-a-tablet" construction controls the release of each essential digestive enzyme at its own appropriate gastro-enteric level... in its optimal state of enzymatic activity. This unique action explains the relief gratifyingly elicited in so many cases of pathologic or functional impairment of the digestive process.[1,2,3]

**REFERENCES:** 1. Kammándel, H. et al.: Bull. N. Y. Med. Coll., Flower & Fifth Ave. Hosps. (in press). 2. McGavack, T. H. and Klotz, S. D.: Bull. N. Y. Med. Coll., Flower & Fifth Ave. Hosps., 9:61, 1946. 3. Weissberg, J. et al.: Am. J. Dig. Dis., 15:332, 1948.

**FORMULA:** Each tablet contains 300 mg. pancreatin, U.S.P., 250 mg. pepsin N.F., and 150 mg. bile salts.

**A. H. ROBINS CO., INC., RICHMOND 20, VA.**

# ENTOZYME®

Robins

***A SINGULARLY effective, DOUBLE-layered tablet, with TRIPLE-enzyme digestive action.***

*Gastro-soluble enzymes are released from outer shell (A) in stomach; entero-active enzymes from inner core (B) in duodenum and jejunum.*


U.S. Public Health Service or the Veterans Administration unless our legislators rescind the authority which they and the courts have invested in these "quasi-public and private corporations."

M. B. LEVIN, M.D.

Baltimore

### Work for Humanity

TO THE EDITORS: The space you gave to the Red Cross in the March 1 issue of *Modern Medicine* should be of great value in promoting our mutual work for humanity. Throughout the coming months we hope that we may count on your continued assistance, especially in the civil defense work for which the Red Cross is responsible—the procurement of blood, training in first-aid, home nursing and nurses' aide classes, canteen, and other volunteer services that will be required in case of national emergencies.

Please accept our thanks for your cooperation.

EDWIN H. POWERS
Director of Publicity

Washington, D.C.

*"Trouble with breathing, eh? I'll give you something to stop that."*

## Metacarpal Fractures

TO THE EDITORS: I read with interest the letter in *Modern Medicine* (Feb. 15, 1951, p. 146) by Dr. H. R. C. Norman of Toronto. Especially was I concerned about his reference to fractures of the lateral four metacarpals and to fractures and dislocations about the base of the thumb.

Sir Robert Jones has stated, "Every fracture is potentially a deformity and if it becomes a deformity will lead to impairment of function." Even though a fracture of any of the metacarpals is well reduced, it eventually becomes deformed unless properly splinted.

If one studies the pathomechanics of a fracture through any of the lateral four metacarpals, it will be seen that a single Kirschner wire placed transversely through the distal fragment will not prevent this latter fragment from pivoting on the wire. The single wire acts as a fulcrum while the interosseous and lumbrical muscles execute the deforming pull. The fragments will assume their usual deformity, which is characterized by dorsal angulation at the fracture site, depression of the knuckle, prominence of the metacarpal head into the palm of the hand, hyperextension at the metacarpophalangeal joint, and flexion deformity of the distal two interphalangeal joints.

The pathology of a fracture or dislocation about the base of the thumb metacarpal is somewhat different. Here, the deforming element is that produced by the pull of the long abductor pollicis inserted into the base of the metacarpal and the strong adductor muscles inserted into the shaft. Here also, I cannot see how a single Kirschner wire can

# for "This wormy world"

# Diphenan

200 MILLION persons act as hosts to Oxyuris (Enterobius) vermicularis according to Stoll's fascinating article "This Wormy World"[1]. This undesirable tenancy can be terminated with the aid of 'Tabloid' brand Diphenan, by mouth, for Diphenan is an effective anthelmintic.

Since these worms make no distinction as to age or social status—Diphenan's palatability, safety and economy are important considerations. One quarter wafer t.i.d. for infants up to 18 months; ½ wafer t.i.d. for children up to 10; 1 t.i.d. for older children, and 1 or 2 t.i.d. for adults. 'Tabloid' brand Diphenan is supplied as wintergreen-flavored chewing wafers of 0.5 grams each in bottles of 20 and 100.

**BURROUGHS WELLCOME & CO.** (U.S.A.) INC., TUCKAHOE 7, N. Y.

1. Stoll, Norman R.: Jnl. of Parasitology 33:1 No. 1 (Feb.) 1947.

be inserted into the first and second metacarpals and prevent deformity of the aforementioned muscles.

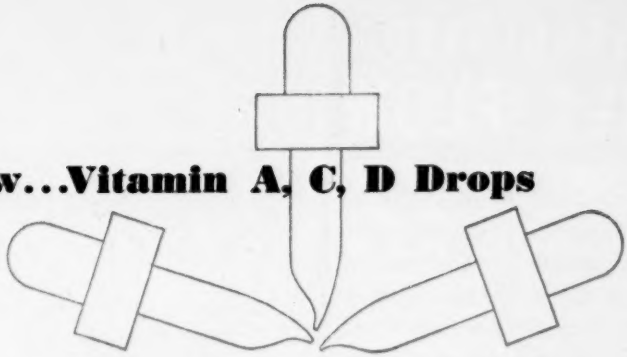
Other disadvantages of the Kirschner wire method of fixation are:

- The protruding wire always leaves an avenue for infection.
- The technic requires hospitalization.
- The procedure is formidable and requires an adept and capable surgeon.
- An assistant is required to maintain the reduction while the surgeon inserts the wire.

This type of fracture is usually first seen by the general practitioner, and it is invariably treated by him with one of the many simpler methods available. Most general practitioners feel that fractures of the lateral four metacarpals are of little consequence and do not require specialized care.

The transverse or impacted fractures are usually splinted over a roll of bandage. This accentuates the deforming element rather than maintaining its reduced or corrected position. The oblique fracture is usually treated with skin or pulp traction over a banjo splint. This usually slips or leaves the patient with a stiff finger and even then does not maintain the corrected position. Fractures or dislocations about the base of the thumb are immobilized in abduction, either with a dorsal splint or plaster of paris, both of which are totally inadequate to oppose the deforming muscle pull.

I believe it is the obligation of the orthopedic surgeon to teach the physician the pathologic mechanics of these fractures. If possible, he should be shown a method of reduction and splinting which he can perform as an office procedure in uncomplicated cases. He should be instructed about the more complicated



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**in aqueous solution** for ***better absorption***

# Aquasperse

## Vitamin ACD Drops

### Advantages:

***Aqueous Solution*** — means faster and more efficient absorption of the fat-soluble vitamins A and D.

In conditions in which fat absorption is impaired, such as diarrheas, celiac disease, hepatic and biliary disturbances, the value of an aqueous solution is obvious.

***Hypoallergenic*** — all the component vitamins of Aquasperse are synthetic. Consequently it may be used where patients cannot tolerate natural source vitamins.

***Pleasant flavor . . . no objectionable odor*** — Aquasperse has an appealing, slightly citrus flavor and practically no odor.

**EACH 0.6 CC. CONTAINS:**

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|---|---|
| vitamin A | 5000 U.S.P. Units |
| vitamin $D_3$ | 1000 U.S.P. Units |
| ascorbic acid | 50 mg. |

*Note:* The vitamin $D_3$, in Aquasperse is chemically indentical and biologically equivalent to the vitamin D of cod liver oil.

•

***Available***—In bottles of 15 cc. and 50 cc. (with calibrated dropper)

**WHITE LABORATORIES, INC., Pharmaceutical Manufacturers, Newark 7, N. J.**

metacarpal fractures which require referral to an orthopedic surgeon for hospitalization and operative intervention.

I would like to refer you to three articles on metacarpal and thumb fractures: D. Goldberg, *Am. J. Surg.* 72:758-766, 1946; 76:224-231, 1948; and 81:227-231, 1951.

The method outlined in these articles for treating most metacarpal fractures can be handled easily by the general practitioner as an office procedure. Only the more complicated metacarpal fractures need be referred for specialized handling. It is a dynamic method of immobilization that does not interfere with function. Because of this, there is a full functioning hand immediately after removal of the splint. Unlike the Kirschner wire method of fixation, this method can immobilize and maintain the position of one or all metacarpal fractures at the same time. It has been used by me and my associates with good results in:

- Fractures of any or all metacarpals simultaneously
- Transverse fractures
- Oblique fractures
- Spiral fractures
- Comminuted fractures
- Compound fractures
- Bennett fracture (fracture-dislocation about the base of the thumb)
- Transverse fracture at base of thumb
- Dislocation at base of thumb

DAVID GOLDBERG, M.D.
Springfield, Mass.

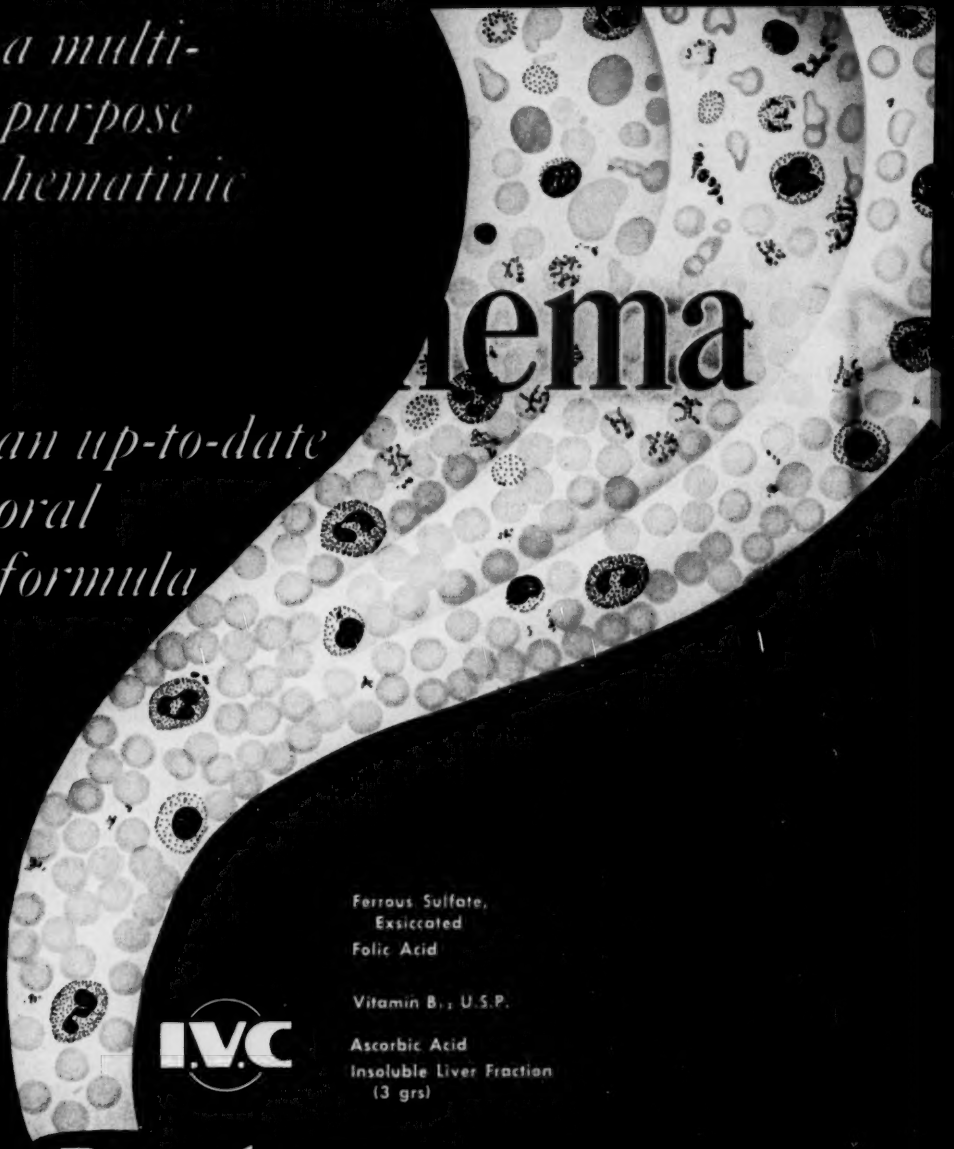
## Index Adds Much

TO THE EDITORS: Thank you so much for the Index to *Modern Medicine*. It adds much to the journals which I have filed.

J. K. WILLIAMS WOOD, M.D.
Troy, Pa.

*a multi-purpose hematinic*

*an up-to-date oral formula*



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# *Questions & Answers*

*All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department,* MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

**QUESTION: A woman over 60 years of age has excessive salivary secretion, seemingly limited to the sublingual glands. She has received vitamins and has had her teeth removed, but the condition is becoming worse. What additional treatment can be administered? Do you think that any type of operation would be beneficial in this case?**

**M.D., Tennessee**

ANSWER: *By Consultant in Otolaryngology.* The sublingual glands may not be the only source of the excessive salivary secretion since these glands are the smallest supplying salivary fluid. Probably the submaxillary and even the parotid participate in the secretion. After determining the glands responsible, a trial of roentgen therapy will indicate which glands should be given continued radiotherapy. If the excessive secretion is found to be originating in either or both of the submaxillary glands, surgery might be considered.

**QUESTION: What is the recommended treatment of prolapsed gastric mucosa that has been diagnosed by roentgenogram?**

**M.D., Iowa**

ANSWER: *By Consultant in Gastroenterology.* Treatment of prolapsed gastric mucosa is determined by the relevance of the symptoms to the roentgenographic appearance in a particular instance. That is to say, very often the patient's complaint may not properly be attributed to the condition described by the roentgenologist.

In some cases, extreme pyloric spasm may produce the symptoms and radiographic picture, perhaps owing to unusual redundancy of pyloric mucosa; in other cases, antral gastritis is considered the responsible agent.

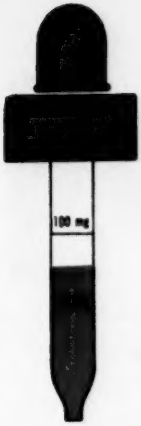
For these, the ulcer form of treatment, with antispasmodics, is satisfactory. Occasionally, when the prolapsed mucosa is the only discoverable source of gastrointestinal tract hemorrhage, operations have been performed. Redundant, congested mucosa has been found and, in a few cases, gastritis. The excess mucosa has been removed, with or without pyloroplasty.

**QUESTION: A 23-year-old woman, with no history of trauma or surgery, has had a draining umbilicus for several years. What therapy is indicated?**

**M.D., New York**

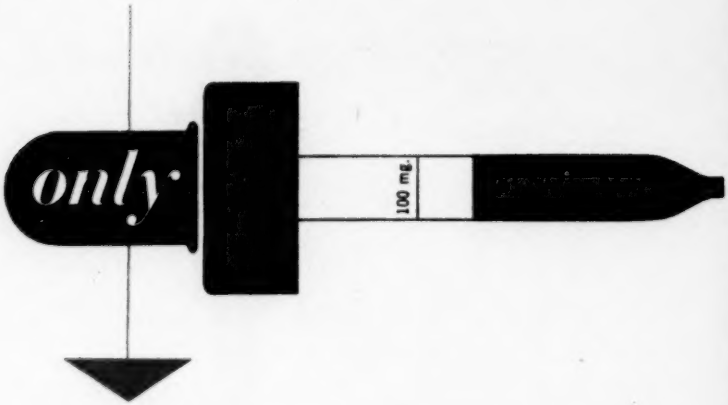
ANSWER: *By Consultant in Surgery.* If the patient is obese, the drainage could be due to infection from

*(Continued on page 32)*




CONCENTRATED

# oral drops

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the treatment of infants and children—
equally convenient for older
patients who are unwilling
or unable to take other oral
forms of medication.

ANTIBIOTIC DIVISION

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The drop-dosage form of Terramycin is indicated in a wide range of infections due to bacterial, rickettsial, and certain viral and protozoan organisms now known to be sensitive to this newest of broad-spectrum antibiotics.

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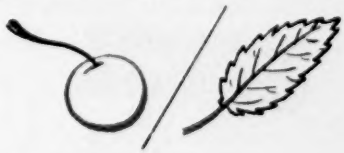
- ***high dosage concentration (approximately 50 mg. in each 9 drops)***
- ***miscible with most foods, milk and fruit juices***
- ***appealing cherry color and cherry-mint flavor***



**Supplied** in 10 cc. bottles with specially calibrated dropper; provides 200 mg. of Terramycin per cc.

**CHAS. PFIZER & CO., INC.,** *Brooklyn 6, N.Y.*

an inadvertently lodged foreign body, possibly consisting of inspissated sebaceous material, in the deep recesses of the umbilicus. Treatment would be removal of the foreign body.

Frequently omphalitis with drainage in an obese individual is the result of a fungous infection of the tract. The draining material should be examined microscopically, the tract thoroughly cleansed, and a fungicide applied.

Such drainage could result from an anomaly of the vitelline duct or urachus. If the duct persists as a complete fistula from the umbilicus to the intestine, the drainage would be intestinal contents, the amount and character of which would depend on the caliber of the sinus and the site of eruption where it arises from the intestine.

The persistent vitelline duct may be incomplete having an opening at the umbilicus and ending blindly at any distance below the skin level.

If a persistent urachus is present the drainage will be urine, mucoid, or mucopurulent. This urachus produces a sinus from the umbilicus to the bladder, which also may be incomplete having an external opening in the umbilicus and ending blindly somewhere along the urachal tract.

To determine the nature of a draining umbilical sinus, x-ray studies with radiopaque material in the sinus would give information differentiating a vitelline sinus and a urachal sinus. In the case of a urachal sinus, a cystogram using radiopaque material may demonstrate the sinus arising from the urinary bladder.

Surgical treatment is indicated for either the persistent vitelline sinus or the persistent urachal sinus, and the entire sinus tract should be removed to correct the situation.

# In coronary artery disease...

**BALANCE** cholesterol - phospholipid

## with B-TROPIC™

### LIPOTROPIC-OXYTROPIC THERAPY

"It is hypothesized that the levels of serum cholesterol and serum phospholipids are less important in coronary artery disease than is the ratio of cholesterol and phospholipids."[1]

"...the lipotropic agent choline was effective in significantly reducing the mortality rate due to recurrent coronary thrombosis...in...115 patients with proved coronary atherosclerosis."[2]

The new metabolic concept of atherosclerosis emphasizes the importance of correcting the impaired metabolism of both fat and oxygen in this disease.[1, 2, 3] B-TROPIC* stimulates phospholipid turnover—helping to bring about a normal cholesterol-phospholipid balance—and enhances the body's oxidative efficiency.

**Other Indications:** Hepatic cirrhosis, diabetic hypercholesterolemia and liver dysfunction, and other disorders of fat metabolism.

**2 Agreeable, Sugar-Free Dosage Forms**

| B-TROPIC SOLUTION<br>Each fluidounce contains: | | B-TROPIC CAPSULES<br>Each capsule contains: | |
|---|---|---|---|
| Tricholine Citrate (47% choline base) | 6 Gm. | Choline Dihydrogen Citrate | 375 mg. |
| Inositol | 2 Gm. | Inositol | 125 mg. |
| Thiamine Hydrochloride | 3 mg. | Thiamine Hydrochloride | 1 mg. |
| Riboflavin | 2 mg. | Riboflavin | 0.5 mg. |
| Nicotinic Acid | 20 mg. | Nicotinic Acid | 5 mg. |
| In a flavored, sugar-free vehicle | | | |

1. Gertler, M. M.; et al.: Circulation 2: 517 (1950). 2. Morrison, L. M.: Ann. West. Med. & Surg. 4: 665 (1950). 3. Hooper, W. C.: M. Clin. North America 32: 773 (1948).

**SUPPLIED:** B-TROPIC Solution—bottles containing 1 pt. and 1 gal. B-TROPIC Capsules—bottles containing 100, 500, and 1,000.

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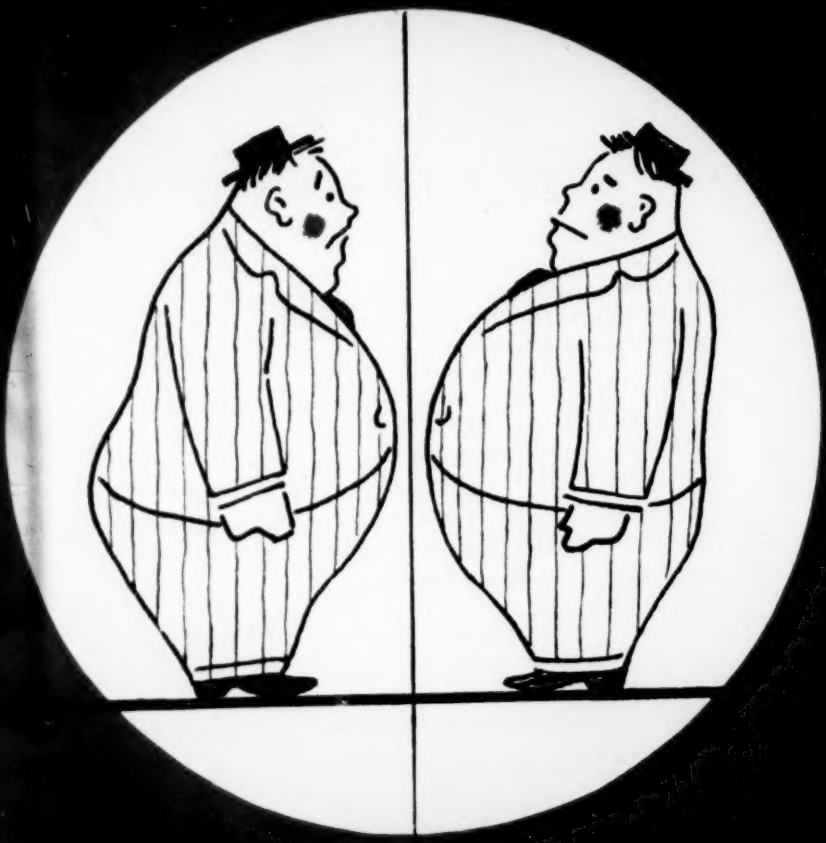
THE VALE CHEMICAL CO., INC. *pharmaceuticals* ALLENTOWN, PA.

# Double



# FOOD IN *Obesity*

The double trouble in managing obese patients is a twin torment of appetite and bulk hunger. One might successfully depress appetite, but the intense, gnawing hunger and sense of emptiness which besets many obese patients on a restricted diet cannot be easily controlled by the will alone.

OBOCELL—a combined hunger *and* appetite depressant—doubles the power of resistance and makes adherence to a restricted diet much easier for more prolonged periods because both bulk hunger and appetite are treated synonymously.

OBOCELL supplies methylcellulose (150 mg.), an indigestible, non-nutritive bulking agent, plus dextro-amphetamine phosphate (5 mg.), the most potent agent to curb the appetite. *Supplied:* Bottles of 100, 500, 1000 at prescription pharmacies everywhere.

# Obocell

**IRWIN, NEISLER & CO.** 65 YEARS Irwin **DECATUR, ILLINOIS**

# *Forensic Medicine*

ARTHUR L. H. STREET, LL.B.

*Prepared especially for Modern Medicine*

**PROBLEM: When accused wrongfully shot a person in the leg and death ensued, could he escape conviction of manslaughter on the ground that a doctor improperly treated the victim's wound and caused an embolism from which death resulted?**

**COURT'S ANSWER: No.**

The Supreme Court of South Carolina followed the rule of law that one who inflicts a wound not necessarily fatal may be convicted of homicide if the injury "contributes mediately or immediately to the death." The court recalled its previous declaration that a gunshot wound must be regarded as the primary cause of death when pneumonia results while the victim is recovering from the wound (63 S. E. 2d 303).

**PROBLEM: Gangrene developed in a patient's foot after a ligation operation performed by defendants' assistant, and amputation became necessary. When accused by the patient of crippling him, one of the defendant doctors did not deny the fact but assured the patient that they would get steady work for him and furnish an artificial foot. Did that constitute an admission of negligence to be considered in the trial of the patient's suit for malpractice?**

**COURT'S ANSWER: Yes.**

The Iowa Supreme Court cited one of its earlier decisions in which a doctor's declaration, "We will see you through all this," was treated as evidence of admitted negligence.

The court also cited a decision of the Massachusetts Supreme Judicial Court as supporting the proposition that "admissions of a physician, when not mere statements of regret or sympathy," are enough to support a verdict of negligence (43 N.W. 2d 121). In the Massachusetts case, a maternity patient's buttocks were burned by a solution administered by her doctor. When he discovered the burn, he declared that it was a "mess," that it was a "darn shame to have it happen," and that it was "unfortunate" and resulted from negligence (69 N.E. 2d 581). In this case, the court said that the statements that it was a "shame" and "unfortunate" were expressions of sympathy and not admissions of liability, but that statements that there was negligence and that the patient's skin was exposed too long to the solutions amounted to admissions.

**PROBLEM: Were a husband and wife disqualified to adopt a child because they were Christian Scientists when the couple were fully disposed to provide, and had provided, medical care for the child when needed?**

**COURT'S ANSWER: No.**

The Mississippi Supreme Court said that it was not necessary to

*(Continued on page 40)*

*the Venus of Willendorf...*

**SYMBOL OF AN AGE-OLD PROBLEM**

This rotund prehistoric carving is unrefuted evidence that all through the ages mankind has been confronted by the dangerous and harassing problem of *obesity*.

Medical history has proved that hunger and appetite prohibit the obese patient from following prescribed dietary restrictions.

AM PLUS—a new achievement in weight control—contains the many factors now known to be required for ideal obesity management.

AM PLUS—containing dextro-amphetamine sulfate, 11 minerals and trace elements, and 8 vitamins:

- Effectively curbs the appetite.
- Protects against nutritional deficiencies resulting from restricted diet.
- Promotes greater activity—enhances weight reduction.
- Suppresses desire to "nibble" caused by nutritional deficiencies.

Because of the sense of well-being, increased vigor and improved state of nutrition, the AM PLUS-treated patient is happier and in a *better* state of health at the end of the regimen.

for sound obesity management specify

# AM PLUS


*Each Capsule Contains*

DEXTRO-AMPHETAMINE SULFATE ..... 5 mg.

| | | | |
|---|---|---|---|
| CALCIUM | 242 mg. | VITAMIN A | 5000 U.S.P. Units |
| COBALT | 0.1 mg. | VITAMIN D | 400 U.S.P. Units |
| COPPER | 1 mg. | THIAMINE HCl | 2 mg. |
| IODINE | 0.15 mg. | RIBOFLAVIN | 2 mg. |
| IRON | 3.33 mg. | PYRIDOXINE HCl | 0.5 mg. |
| MANGANESE | 33 mg. | NIACINAMIDE | 20 mg. |
| MOLYBDENUM | 0.2 mg. | ASCORBIC ACID | 37.5 mg. |
| MAGNESIUM | 2 mg. | PANTOTHENATE Ca | 3 mg. |
| PHOSPHORUS | 187 mg. | | |
| POTASSIUM | 1.7 mg. | | |
| ZINC | 0.4 mg. | | |

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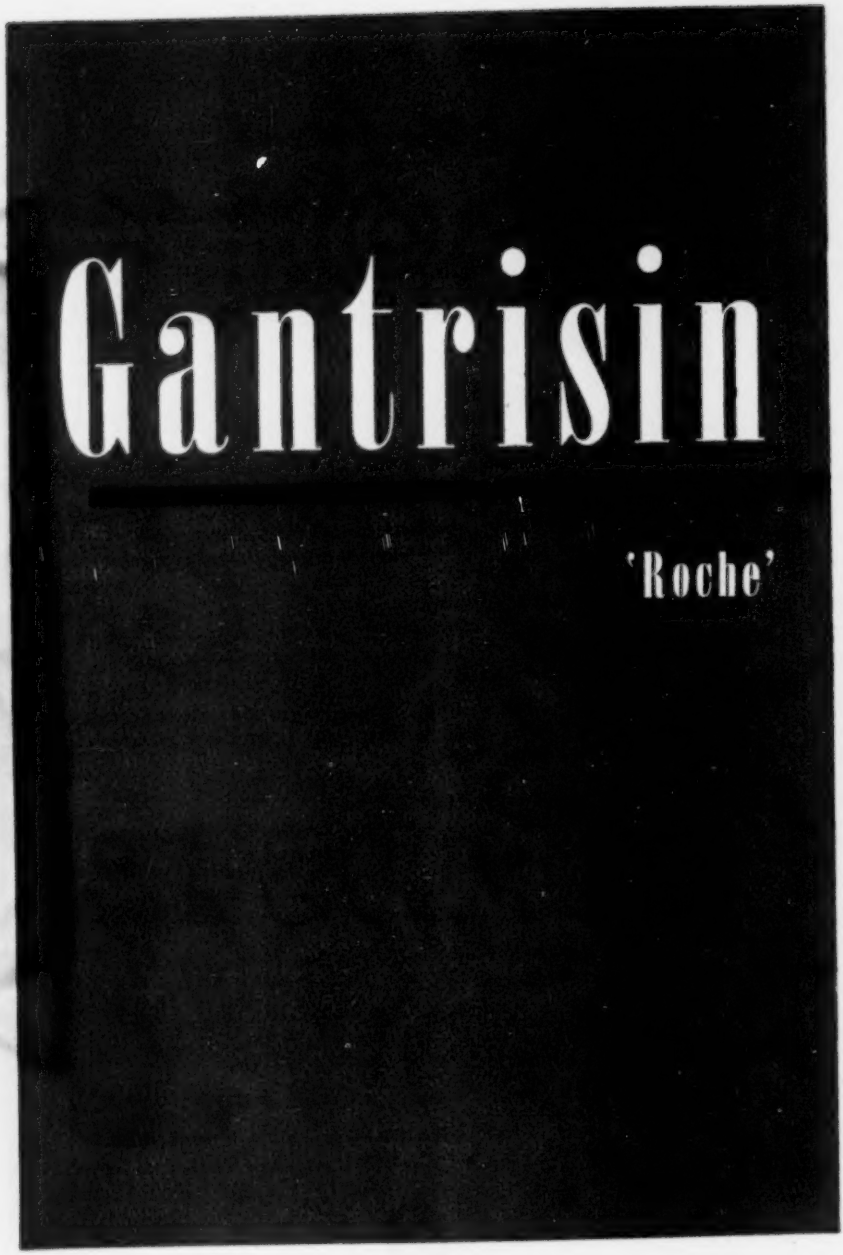
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■ **greater solubility**

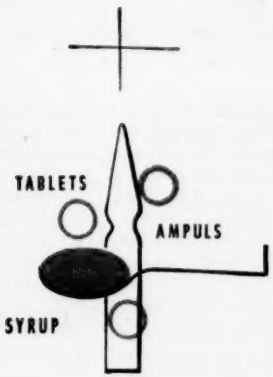
Gantrisin is a sulfonamide so soluble that there is no danger of renal blocking and no need for alkalinization.

■ **higher blood level**

Gantrisin not only produces a higher blood level but also provides a wider antibacterial spectrum.

■ **economy**

Gantrisin is far more economical than antibiotics and triple sulfonamides.




■ **less sensitization**

Gantrisin is a single drug—not a mixture of several sulfonamides—so that there is less likelihood of sensitization.

GANTRISIN®—brand of sulfisoxazole
(3,4-dimethyl-5-sulfanilamido-isoxazole)

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decide whether the state's public policy opposed adoption of a child by one opposed to medical treatment. But the court decided that parents who do not furnish necessary surgical and medical care to a child are just as guilty of "neglect" as if they do not give the child needed food.

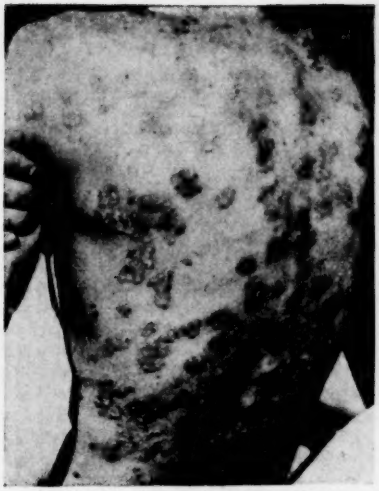
The court added that it was inconceivable that a person could be so fanatical as to deny to himself the boon of modern medicine and surgery. "An adult, in his right mind," might be permitted to "go on to his death, if he so chooses. But an enlightened society will not permit the great healing medium of modern medicine and surgery to be denied to their children, regardless of the conscientious belief of their parents, whether such parents be natural or adoptive." On the other hand, Christian Scientists not opposed to medical or surgical treatment are not to be disqualified as adopting parents (50 So. 2d 364).

**PROBLEM: Was a jury warranted in awarding damages against a doctor for negligence in delaying a cesarean operation from morning to night, when there was no expert testimony to show neglect, even though the patient requested earlier operation and testified that another doctor and nurse had told her after previous childbirth that she had certain conditions requiring prompt delivery?**

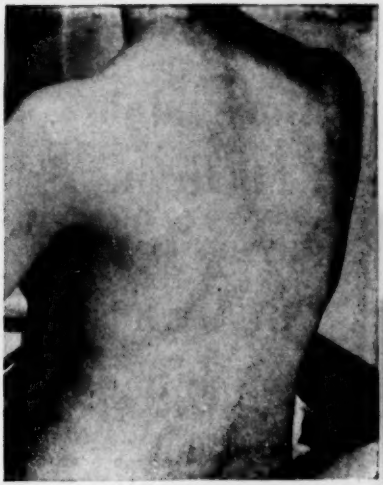
**COURT'S ANSWER: No.**

The Texas Court of Civil Appeals at Waco set aside a verdict awarding the patient $11,000 damages and ordered rehearing of the case.

The higher court stressed the need for medical testimony to establish malpractice in a case like this and said that the declarations made by the doctor and nurse at the patient's



*Psoriasis — photographed after 5 years' duration*



*Same case after 7 weeks' treatment with Mazon*

## *The psoriatic regimen includes*

## *Local Relief*

## *Protection against recurrence*

The multiplicity of types of treatment advocated for psoriasis indicate the stubbornness of the disease. While permanent relief is not insured by any one treatment, many patients have had no recurrence after the use of Mazon.

As demonstrated clinically for over 25 years, Mazon is acceptable to the patient because it is non-staining, non-greasy and requires no bandaging. The antiseptic and antiparasitic properties and rapid absorbability of Mazon suggest its use in psoriasis when systemic or metabolic involvement is not manifested.

**MAZON**

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MAZON

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Philadelphia, Pa.

previous delivery should not have been received as evidence. The appellate court said that the woman failed to show any good reason why her request for an early operation should have been granted (236 S. W. 2d 177).

**PROBLEM: In Ohio, as in some other states, to sustain a conviction for causing abortion, the prosecution must prove beyond reasonable doubt [a] that an instrument or other means was used with intent to produce a miscarriage, [b] that miscarriage was produced, and [c] that the operation was not necessary to save the mother's life or was not advised by two physicians. [1] Is it incumbent upon the prosecution to prove that the operation was not advised by two physicians? [2] May the prosecution prove by circumstantial evidence that the operation was not essential to save the mother's life?**

**COURT'S ANSWERS: [1] No. [2] Yes.**

The Ohio Court of Appeals, Stark County, noted that it is a simple matter for accused to show, if he can, that the operation was advised by two physicians, whereas it would be very difficult, if not impossible, for the state to prove the negative (94 N. E. 2d 562).

•

**PROBLEM: In a workmen's compensation proceeding, it appeared that causalgia resulted from accidental injury. Was claimant's right to an award affected by his refusal to submit to removal of a nerve, when two doctors advised him not to submit to the surgery and no doctor testified that an operation would be effective?**

**COURT'S ANSWER: No.**

This case was decided by the Kansas Supreme Court (219 Pac. 2d 429).

# background counts in hydrocholeretics, too

As Webster puts it, *background* is "that which is back of anything and against which it is viewed..."

Back of Cholan-DH and Cholan-HMB with Phenobarbital is the important fact that they are Maltbie "firsts". Maltbie research developed the first American process for converting crude viscous oxbile into chemically pure dehydrocholic acid (Cholan-DH, Maltbie).

In biliary dyspepsia and constipation, biliary stasis, cholecystitis, cholangitis, biliary dyskinesia, and post-operative treatments...Cholan-DH and Cholan-HMB with Phenobarbital stand out as the hydrocholeretics with a background.

Cholan-HMB with Phenobarbital provides comprehensive therapy in one tablet... Dehydrocholic Acid-Maltbie *for hydrocholeresis*, HMB (homatropine methylbromide) *for spasmolysis*, and phenobarbital *for sedation*.

**Each Cholan-HMB with Phenobarbital Tablet contains: Dehydrocholic Acid-Maltbie, 3 3/4 gr.; homatropine methylbromide, 1/24 gr.; phenobarbital, 1/8 gr.**

*comprehensive therapy*
*in one formula*

**cholan · DH**
*Tablets*
*(Dehydrocholic Acid-Maltbie, 3¾ gr.)*

**cholan · HMB**
*with Phenobarbital / Tablets*

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# *Washington Letter*

## Civil Defense Publications Set Record: Distributed to Millions

Within the next month, Federal Civil Defense Administration plans to publish *What You Should Know about War Gases,* the third in a series of pamphlets presenting technical subjects for the general public. For those who think the public is not aware of civil defense problems, medical included, the reception of these pamphlets is a revelation.

In October, the first of the series came out, *Survival under Atomic Attack.* A small booklet of 32 pages, it kept completely away from technical discussions beyond the understanding of the general public. The second of the series is *What You Should Know about Biological Warfare.* National Security Resources Board, forerunner of CDA, hoped for mass distribution, but there was some worry that the public might not respond.

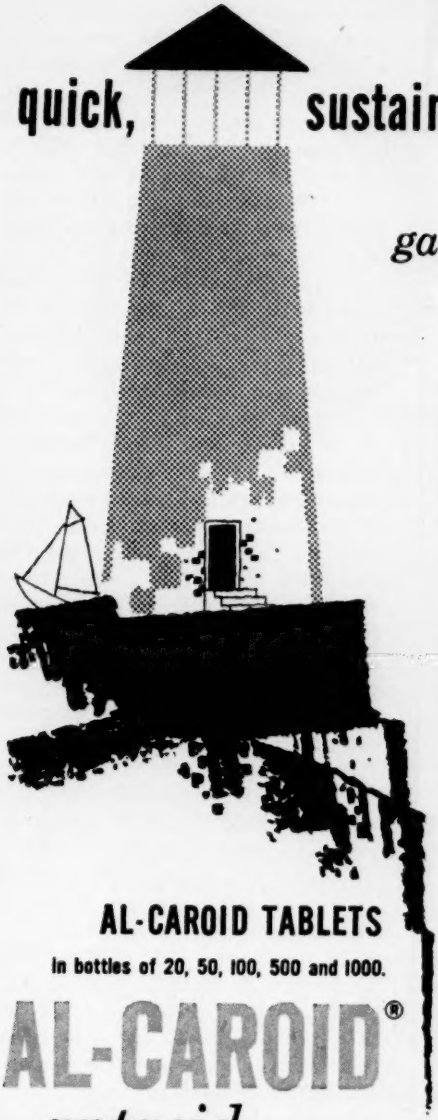
The concern was completely unnecessary. The circulation of the first pocket-sized pamphlet already is high in the millions, with the prospect that total circulation will top 50,000,000 before the year is out. Within four months, 10,000,000 copies were reprinted, and shortly after that the orders were out for 14,000,000 more. The inquiries on hand by April 1 suggested that the presses would be turning out many more millions in the next few months.

*"Which reminds me, I have some envelopes I'd like sealed. Do you mind?"*

The policy was adopted by NSRB, and later CDA, of allowing nongovernment organizations and agencies to take over the task of distributing the booklets after reprinting them at their own expense. To keep down costs and stimulate the greatest possible distribution,

# quick, sustained antacid action

*without gastric interference*



Al-Caroid, by neutralizing excess gastric acidity without retarding protein digestion, overcomes a common objection to the use of antacids.

Caroid®, the potent proteolytic enzyme in Al-Caroid, digests proteins vigorously in both acid and alkali media. Protein digestion continues without interruption while fast and slow acting alkalies in Al-Caroid are producing a rapid, sustained rise in pH values.

For quick, positive relief of indigestion, heartburn, flatulence, morning sickness of pregnancy, and other symptoms resulting from hyperacidity and impaired protein digestion—prescribe Al-Caroid.

**AL-CAROID TABLETS**

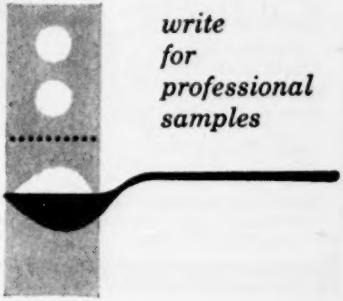
In bottles of 20, 50, 100, 500 and 1000.

**AL-CAROID POWDER**

In 2 oz., 4 oz. and 1 lb. packages.

# AL-CAROID®

*antacid-digestant*



*write for professional samples*

AMERICAN FERMENT COMPANY, INC.
1450 Broadway, New York 18, N. Y.

the pamphlets' text is held to a minimum. Furthermore, they are so written that drawings or illustrations of any sort are unnecessary. The result was that some organizations and concerns reprinted the pamphlets at a cost of a fraction of a cent each. Others added their own art work, after first getting the approval of CDA.

In some cases, commercial concerns made use of the reprints to promote sales. CDA has no objection to this procedure, as long as the message is not garbled, is not made sensational, and is not condensed to the point where it loses its value. A number of organizations—including several medical societies—reprinted the booklet as a service to their members. The net result is that the pamphlets are getting a distribution that no government department could afford to finance. The pamphlets are the first of any government publications to circulate in the millions within a few months of publication.

Incidentally, CDA is deliberately holding back publication dates. The directors decided not to release the booklets faster than they could be circulated and digested by a public that was just becoming aware of the danger from enemy attack.

In the future, CDA will continue to prepare its material, then sit back and encourage outsiders to take over the distribution. In the light of experience to date, any other course would not make much sense.

While these pamphlets obviously aren't written for the edification of the medical profession, physicians are expected to urge the general public to become familiar with the material. The two pamphlets already

*(Continued on page 50)*

VISIT BREON
BOOTH K 8


# A MORE ADEQUATE APPROACH TO MENOPAUSAL THERAPY

**TRANSIBARB** Capsules provide threefold, symptomatic relief in the management of the menopausal patient . . . adequate sedation . . . cerebral stimulation . . . control of vasomotor instability.

TRANSIBARB takes full advantage of the increasing use of a central nervous system stimulant combined with effective proportions of sedative medication. In addition, vitamin E is employed in the formula for its demonstrated efficacy in menopausal therapy.

In geriatrics, too, TRANSIBARB tends to minimize nervous apprehension in debilitated and mentally depressed patients.

Each TRANSIBARB Capsule contains phenobarbital, (Warning: May be habit forming), ¼ gr., d-desoxyephedrine HCl., 2.5 mg., and vitamin E (dl-alpha tocopheryl acetate), 5 mg.

DOSAGE: One capsule, an hour after breakfast; one capsule, an hour after lunch. In exceptional cases, a third capsule may be given, if required, an hour after the evening meal.

# TRANSIBARB

TRADEMARK

**Sedative—Sympathomimetic**

**SUPPLIED: Bottles of 500 and 1000 capsules, at all drug stores.**

*Literature and samples to physicians on request.*

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# TRUE STIMULANT THERAPY

The therapeutic efficacy and clinical safety of ACTHAR derive from the fact that it *stimulates* secretion of all three types of cortical hormones—all of vital importance in stress situations.

Quick-acting and quickly metabolized, ACTHAR is free of cumulative effects when administered in proper dosage and with proper spacing of injections. The speed of onset of therapeutic action is a significant advantage in acute conditions.

ACTHAR is the preparation of choice in those diseases requiring maintenance therapy. ACTHAR permits uninterrupted, continuous therapy without rest periods, since it functions as the true physiologic stimulus to the adrenal cortex and does not cause adrenal involution.

**ESTABLISHED INDICATIONS:** Rheumatoid arthritis, rheumatic fever, acute lupus erythematosus, severe asthma, drug sensitivities, contact dermatitis, most acute inflammatory diseases of the eye, acute pemphigus, exfoliative dermatitis, ulcerative colitis, acute gouty arthritis, secondary adrenal cortical hypofunction, alcoholism and acute delirium tremens, and severe burns.

Literature and directions for administration of ACTHAR, including contraindications, available on request.

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Dr. Frank Graham, former president of the University of North Carolina and former senator, was generally believed to be the President's first choice. However, his name was never submitted to the Senate. One explanation was that although Mr. Truman wanted Dr. Graham, the new board of directors didn't. Significantly, two days after announcement of the selection of Dr. Waterman, Dr. Graham received a federal appointment to a high post in the Department of Labor.

*(Continued on page 134)*


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# *The Far-Flung Character of Hepatic Disease—*

## A GROWING RECOGNITION

An extensive body of literature has developed around the relationship of the liver to disorders formerly considered to be unassociated with hepatic damage. The relationship of hepatic failure to malnutrition, alcoholism, diabetes and atherosclerosis has received extensive consideration in recent medical literature. In addition to these important evidences of a close relationship of hepatic insufficiency to specific pathologic conditions,

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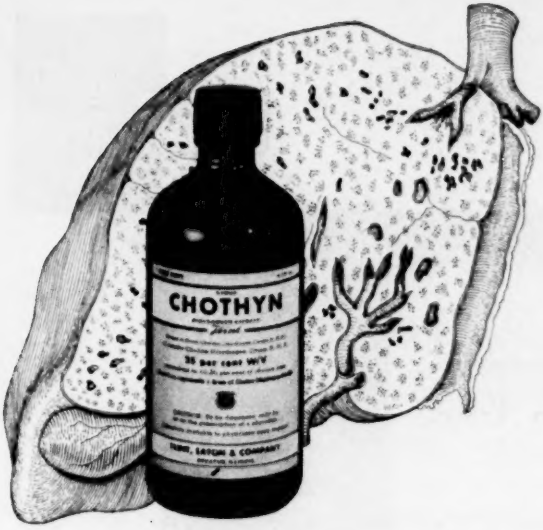


the literature reveals a growing tendency to consider liver damage as an integral part of a wide variety of physiologic deviations commonly considered to be extra-hepatic in origin and character.

**"CHOTHYN"**—Choline Dihydrogen Citrate, Flint—in association with diet regulation has been used with clinical success in the prevention and treatment of fatty infiltration of the liver.

*A bibliography of recent articles concerned with the role of the liver in health and disease is available upon request.*

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# *Special Article*

## The Antihistamines

MORRIS FISHBEIN, M.D.*

*Prepared for Modern Medicine*

In 1933, certain phenolic ethers were reported to have the property of inhibiting or counteracting the action of histamine. This announcement, as do all pioneer developments in the field of medicine, stimulated investigators to search for substances which would achieve the ideal objective of antagonizing the effects of histamine without being toxic or damaging the organism.

Since the announcement of the discovery of Antergan, as the first antihistamine was named, many other similar products have become available. Many have been extensively studied in the laboratories of the basic sciences and have been tried in thousands of cases of diseases which seemed to have allergic backgrounds. Since the usefulness of an antihistamine depends on its ability to oppose the action of histamine in the body, an understanding of the effects of histamine is important.

Histamine dilates the capillary blood vessels, stimulates the musculature of the gastrointestinal tract, and is the most potent substance known for evoking gastric secretion. Histamine contracts the musculature of the uterus and produces a powerful constriction of the muscles of the bronchioles in the lung.

Induced spasm of the bronchioles is so positive that prevention and control of such spasm is used as a measure of the

* Editor, *Bulletin of the World Medical Association;* Member, Council on Pharmacy and Chemistry, American Medical Association.

potency of an antihistaminic drug. In this test, a lethal quantity of histamine solution is sprayed into the lung of a guinea pig. Then a sufficient amount of antihistamine is used to diminish bronchial constriction and prevent death. Such studies have been made on most of the products now generally available.

Recently, S. M. Feinberg, S. Malkiel, and A. R. Feinberg have made a complete survey of the antihistamines. Those interested will find in their book, *The Antihistamines*, a review of the studies that have been made of histamine, of the chemistry and pharmacology of the antihistamines, and of their use in a variety of conditions. The bibliography includes references to 586 contributions in periodicals. No doubt several hundred additional articles have appeared since the book was written.

The appendix indicates at least twenty-five different antihistaminic preparations now marketed with innumerable dosage forms, some under two or more brand names; thus Histadyl seems to be available with at least twelve brand names and Neo-Antergan with as many as seventeen. Some of these names are applied to mixtures of Neo-Antergan with other substances.

*New and Nonofficial Remedies* for 1950 includes nine preparations that have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Obviously, the antihistamines are important for the treatment of disease and for overcoming specific unfavorable reactions that occur in the human body when histamine is released in the tissues under different circumstances. The statement of the Council on Pharmacy and Chemistry is, as might be expected, conservative and, therefore, no doubt all the more definitely scientific. Many clinicians who have used the preparations are lavish in praise of the antihistamines as weapons in the battle against pain and pathologic conditions.

### Mechanism of Allergy

Most of the characteristic allergic conditions, especially the symptoms due to spasm of smooth muscle and increased capillary permeability, are caused by histamine. Sensitivity reactions such as asthma, hay fever, nonseasonal vasomotor rhinitis, infantile eczema, urticaria, and angioedema are re-

lated to hereditary factors, but the basic mechanisms seem to depend on the release of histamine.

The fundamental pathologic reactions in asthma, allergic rhinitis, urticaria, and angioedema which involve dilation of the blood vessels and increased capillary permeability with swelling in the tissues are controlled by antihistamines. Attempts to demonstrate an excess of histamine in the blood of patients during attacks of allergic disease have failed.

Before the development of antihistaminic drugs, the allergic reactions which were known to be the results of sensitivity to protein substances or to drugs or, in some instances, to nonprotein substances were relieved by desensitization, which was accomplished by injecting gradually increasing amounts of the substances to which the person was sensitive and thus establishing the means by which the body was protected against the substance.

Many allergists are still convinced that desensitization is a more effective method of permanent control than is the use of antihistaminic drugs. But for the majority of physicians who are not specially trained in the technics of allergy, the antihistamines offer the possibility of immediate relief.

Recent extensive studies of the effects of histamine in the body have shown that this substance may appear in large amounts in shock, that injured cells release histamine into the blood regardless of the nature of the damaging agent. The blood histamine level rises in burns, and local action of histamine may be partially responsible for the blisters in burned skin.

Similarly, histamine may be released by exposures to extreme cold and to x-ray or other radiation and as the effect of toxic doses of various drugs. For this reason, the suggestion has been made that ACTH, the adrenocorticotropic hormone, which increases urinary elimination of histamine, be used in cases of bronchial asthma and other allergic conditions. ACTH has been found to have an antiallergic and antiasthmatic effect.

Compounds of the atropine type may also show antihistaminic effects through action on the parasympathetic nerve endings. Atropine reduces responses of smooth muscle and secretory organs to histamine. However, the effects of atropine are not comparable to those of the antihistamines, particularly

with respect to therapeutically beneficial results without unfavorable effects.

The Council on Pharmacy and Chemistry says in the 1950 *New and Nonofficial Remedies:*

The antihistamine compounds have the greatest therapeutic effect on nasal allergies; on seasonal hay fever more than on perennial vasomotor rhinitis. Relief is most probable from mild hay fever and predominantly sneezing symptoms, in the first part of the season, in a mild season, in favorable weather, and in localities of low pollen or mold spore counts. Severe symptoms, advancing season, heavy season, and high pollen or spore counts diminish results. The drugs are of little use in the relief of nasal blocking, particularly common at the end of the season, and postseasonally. They do not prevent or relieve the asthma which frequently complicates hay fever. Their effect is entirely palliative. Hay fever is usually most effectively treated by desensitization supplemented by the use of antihistamine drugs when needed.

The antihistamine drugs are useful in prevention and treatment of systemic allergic reaction to injections of allergenic substances, but such remedies as epinephrine, ephedrine and aminophylline may be more active and therefore more urgently indicated. In relief of the dyspnea of asthma, particularly the acute paroxysm, the histamine antagonists are ineffective except as supplements to these other remedies. Spasmodic bronchial cough without dyspnea, most frequently encountered as a manifestation of allergy in children, often responds to antihistamine drugs.

Urticaria, angioneurotic edema, serum sickness and reactions from penicillin, streptomycin, sulfonamides and other drugs are usually helped by the antihistamine drugs. The pruritus is benefited most, edema less, and serum sickness least. Other itching skin conditions among those frequently benefited by these drugs administered internally or externally as ointments or creams are atopic dermatitis (flexural eczema), contact dermatitis, pruritus ani and vulvae, generalized pruritus and insect bites. Dosage required for relief increases with the severity of symptoms.

## When Antihistamines Are Used

Reference to the indexes in many recent books on therapy indicates uses for antihistaminic drugs which would seem to embrace almost the entire list of conditions tabulated by the *Standard Nomenclature of Disease.* Among the allergic disorders are those resulting from inhalants, foods, drugs, hormones, insect bites, bacteria, serums, and physical agents

*(Continued on page 140)*

# Therapy of Portal Cirrhosis with Ascites

WILLIAM E. RICKETTS, M.D.*
*University of Chicago*

REPLETION of plasma proteins, improvement of nutrition, and control of fluid balance by restriction of sodium intake are essential in the medical management of portal cirrhosis with edema and ascites. Further injury to the liver by toxins such as alcohol must be avoided.

The plasma albumin levels of patients with cirrhosis but without ascites approximate those of healthy persons; with ascites, plasma albumin is reduced. The decrease is the result of an insufficient food intake, inadequate production and utilization of protein by the diseased liver, or loss of protein from repeated paracentesis, massive hemorrhage, diarrhea, or infection, explains William E. Ricketts, M.D.

The following measures are important in the treatment of portal cirrhosis with ascites:

*Bed rest*—Complete bed rest is advisable to lower the metabolic demands upon the liver.

*Diet*—Foods rich in protein and carbohydrate protect the liver against toxic injury. Methionine and other lipotropic substances also have this action. A moderate amount of fat in the diet is not injurious to patients with liver disease and is useful in making meals more palatable.

A diet containing 120 gm. of protein, 350 to 400 gm. of carbohydrate, and 3,000 to 3,500 calories, supplemented by 6 gm. of choline chloride, will improve nutrition, increase plasma proteins, and eliminate edema and ascites. Parenteral infusions of plasma albumin may be desirable if anorexia is associated with severe liver failure, or when acute loss of protein or shock has occurred.

*Fluid and salt intake*—For patients with cirrhosis and ascites, the elimination of sodium in the urine is diminished by the increased sodium reabsorption in the kidney tubules. Hence, during the several months required to replace plasma proteins by adequate diet, sodium should be restricted to control the balance of body fluids. A 500-mg. daily sodium intake will prevent weight gain from fluid retention.

*Paracentesis and diuretics*—When patients have great discomfort from ascites, paracentesis is often imperative. If followed by restriction of sodium to 500 mg. daily, this measure controls the retention of water, for ascites then accumulates at the expense of edema fluid, while total body weight remains unchanged. Edema and ascites reaccumulate after paracentesis if sodium intake is excessive.

Diuretics are rarely needed if sodium is limited to 500 mg. or less daily, but may be useful if this retriction is not entirely adequate.

Sodium intake should be small for

* Observations on portal cirrhosis with ascites. Ann. Int. Med. 34:37-60, 1951.

a short time after edema and ascites have completely disappeared. Patients with portal cirrhosis but without edema or ascites may take normal amounts of sodium.

Patients who discontinue alcohol and who maintain an adequate nutrition do not tend to relapse. The ultimate prognosis of the disease remains guarded, however, and the outcome is determined to a great extent by the incidence of complications. The most frequent cause of death is bleeding from esophageal varices.

For patients with deep jaundice and severe liver failure, the immediate prognosis depends on the severity of the parenchymal failure. Mortality in this group is high. The treatment of the hepatitis is the most important problem, whereas ascites is of secondary interest.

The tendency to fluid retention may be readily controlled by the employment of sodium restriction. Salt-poor albumin or plasma infusions and intravenous glucose are given until the patient is able to eat adequate quantities of food.

## Oral Penicillin for Pneumococcic Pneumonia

ROBERT AUSTRIAN, M.D., AND ASSOCIATES*

LOBAR pneumonia is adequately managed by small oral doses of penicillin given twice a day, with an initial intramuscular injection.

Several schedules were compared in 150 cases at the Baltimore City, Johns Hopkins, and U.S. Marine hospitals, Baltimore, by Robert Austrian, M.D., George S. Mirick, M.D., D. E. Rogers, M.D., S. M. Sessoms, M.D., P. A. Tumulty, M.D., W. H. Vickers, Jr., M.D., C. G. Zubrod, M.D., and J. C. Harvey, M.D.

In 37 instances, 300,000 units of aluminum penicillin with sodium benzoate was taken by mouth every twelve hours until temperature had been normal for three days. In the same period, 13 more seriously ill patients received intramuscular injections of crystalline penicillin G, alone or as a supplement.

The two methods were then combined; in 43 cases, 300,000 units of sodium penicillin G in aqueous solution was injected intramuscularly on admission, and 1 gm. of Benemid was taken orally to retard renal excretion. At the next 8 o'clock treatment, morning or evening, and every twelve hours thereafter, both doses were taken by mouth.

In 57 cases, 300,000 units of aqueous sodium penicillin G was given intramuscularly twice a day.

In both groups, infection was moderately severe, and results of treatment were similar.

* The efficacy of modified oral penicillin therapy of pneumococcal lobar pneumonia. Bull. John Hopkins Hosp. 88:264-269, 1951. The treatment of pneumococcal lobar pneumonia with oral aluminum penicillin. Ibid., pp. 270-275.

# Diagnosis of Aortic Stenosis

DAVID LEWES, B.M.*
*Postgraduate Medical School of London*

A LOUD, harsh systolic murmur in the second right intercostal space, conducted into the neck, is the commonest clinical sign of aortic stenosis. The classical pattern—a slowly rising pulse, an aortic systolic murmur and thrill, and an absent second sound—occur together in less than one-sixth of cases.

David Lewes, B.M., describes the symptoms and signs observed in 25 patients in whom calcareous aortic stenosis was found post mortem as the only significant valvular lesion. Heart failure and infective endocarditis were the commonest causes of death for these patients.

Patients with pure aortic stenosis may spend a long life of activity and usefulness untroubled by cardiac symptoms until the sixth or seventh decade. The onset of symptoms is frequently sudden. Exertional and nocturnal dyspnea and cardiac pain are common early symptoms. Cerebral manifestations may be giddiness, syncope, confusion, or convulsions. Previous evidence of rheumatism or rheumatic fever is lacking in most cases, although the etiology of aortic stenosis is considered to be nearly always rheumatic.

An aortic systolic murmur may be the only physical sign of aortic stenosis. This murmur is loud and harsh and is transmitted into the neck. The murmur is audible over a wide area and may be loudest in the mitral area. With no aortic dilatation or hypertension, the finding of a loud, harsh aortic systolic murmur is presumptive evidence of aortic stenosis. Aortic diastolic murmurs occur in about one-half of cases.

A systolic thrill in the second right intercostal space is a reliable sign of aortic stenosis but occurs less frequently than the murmur. With heart failure, the thrill may become less intense or even disappear. A faint thrill is sometimes detected only by placing the outstretched hand firmly against the precordium during expiration with the patient leaning well forward.

Absence of the aortic second sound is not a common finding. A normal or even accentuated second sound may accompany established stenosis.

A slowly rising pulse indicates moderate or severe stenosis, but the pulse may be full or collapsing with advanced stenosis. The pulse pressure is also an unreliable diagnostic guide. Normal or high pulse pressures occur more frequently than the expected low pulse pressure.

Triple rhythm and auricular fibrillation are abnormalities of rhythm which may accompany aortic stenosis. Electrocardiography offers little of diagnostic importance. Left bundle-branch block is frequently found.

The radiologic demonstration of

* Diagnosis of aortic stenosis. Brit. M. J. 4700:211-216, 1951.

calcified aortic valves is conclusive evidence of aortic stenosis. Associated heart failure and unfolding of the aorta may obscure the classical radiologic appearance of this lesion.

The response to treatment is poor and death from heart failure usually occurs within two years of the first symptoms. Sudden or unexpected death is not uncommon.

## Clinical Significance of Clot Retraction

ARMAND J. QUICK, PH.D.*

TENDENCY toward venous thrombosis may be enhanced by any of four major factors that hasten clot retraction: rise in platelets, rapid thrombin formation, intimal damage, and reduced red cell volume. To prevent embolism, severe anemia should therefore be corrected by blood transfusion, advises Armand J. Quick, Ph.D., of Marquette University, Milwaukee.

When plasma is obtained from blood centrifuged in silicone-coated glassware, and the number of platelets is changed without adding reagents, the speed and degree of clot retraction vary in proportion to the platelet count.

If a very small amount of thrombin is added to purified fibrinogen solution containing washed platelets, coagulation but no clot retraction occurs. The latter begins when more thrombin is added, and increases in direct relation to the volume of thrombin added.

Thrombin is absorbed by fibrin, and platelets adhere to saturated strands, then gradually disintegrate, causing fibers to twist, bend, and shorten, thus contracting the clot. If thrombin is reduced, little may appear on strand surfaces, so that few platelets are caught.

Retraction does not occur in a vessel coated with collodion, which, like fibrin, absorbs thrombin. Platelets adhere to the wall, but fibrin is firmly attached by platelet debris and resists the retractile force.

Since blood cells are noncompressible, the larger the cell volume, the more force is required to retract the coagulum. With severe anemia, clot retraction is rapid and extreme.

Blood flow is stopped not only by the mechanical plugging of a clot but by a vasoconstrictor freed from disintegrating platelets. Retraction aids by slowly squeezing out serum rich in nascent thrombin. The extent of intimal vascular damage determines the nature of thrombosis. Platelets adhere and form a clot on a small area, and as serum is expressed new clot forms in layers, sometimes floating free to a length of 12 or 18 in.

* Clot retraction: its physiological and clinical significance. Am. J. M. Sc. 220:538-546, 1950.

¶ COLLOIDAL IRON may be taken orally for hypochromic microcytic anemia, even though other forms of iron are not tolerated. Therapeutic doses do not cause gastrointestinal disturbance during pregnancy. The usual daily dose is 4 capsules of Ferrocol containing 240 mg. of actual iron. For maintenance therapy, the same amount or a little less is taken for one week a month. Adolph J. Creskoff, M.D., of the University of Pennsylvania Hospital, Philadelphia, noted average hemoglobin increase of 2.56 gm. per 100 cc. of blood in nine weeks in 25 chronic cases.

*Am. J. M. Sc. 220:553-556, 1950.*

## Use of Parenteral Quinidine

HARRIS BLINDER, M.D., AND ASSOCIATES*

WHEN rapid effect is desired or oral therapy is impossible because of vomiting, shock, or coma, quinidine lactate may be given intramuscularly and is no more toxic than oral quinidine of the same dosage. The injection is relatively painless and may be given hourly.

Harris Blinder, M.D., Julius Burstein, M.D., William Horowitz, M.D., Eugene Gersh, M.D., and Raanan Smelin, M.D., of Morrisania City Hospital, New York City, evaluated parenteral quinidine for healthy and abnormal hearts, using the QT interval of the electrocardiogram as a criterion.

The studies revealed:

Intravenous quinidine is too hazardous to employ. Toxic effects were noted in all of 12 healthy persons to whom the drug was given. Reactions included palpitation, flushing, and dizziness and, in 1 case, alarming symptoms of collapse.

Quinidine lactate, 0.65 gm., given intramuscularly, achieves greatest cardiac effects in about thirty minutes for persons with regular sinus rhythm. The effects last two to four hours with healthy hearts, and at least six hours with abnormal hearts. In twenty-four hours a small but significant influence is still discernible. Peak response with oral administration appears in one and three-quarters hours and lasts about the same length of time as the intramuscular injection.

For patients with cardiac arrhythmias, greatest effect, as estimated by slowing of the ectopic pacemaker, comes thirty to sixty minutes after intramuscular injection. The pharmacologic action is equivalent to that reached by the oral method, except that the action occurs more rapidly.

* Studies on the effects of parenteral quinidine administration. Arch. Int. Med. 86:917-933, 1950.

# Treatment of Severe Extensive Burns

T. G. BLOCKER, JR., M.D.*
*University of Texas, Galveston*

GENERAL therapy takes precedence over local measures in the management of severe burns.

Whole blood is a more effective initial replacement fluid than plasma. During the first twelve hours 1 or 2 liters should be given; the degree of shock determines the amount and rapidity of administration.

At the same time, according to T. G. Blocker, Jr., M.D., the patient should be urged to drink large quantities of a bicarbonate and saline solution, 4 gm. of sodium chloride and 1.5 gm. of sodium bicarbonate per liter of distilled water. If vomiting occurs, 500 cc. of Ringer's solution is given intravenously before resumption of oral fluids.

After twelve hours, the patient's status is reevaluated on the basis of appearance, temperature, pulse, urinary volume and specific gravity, erythrocyte count, hemoglobin, and hematocrit. If the hematocrit is 50 or above and the condition seems grave, transfusions are continued until shock symptoms regress. Thereafter, 500 cc. of whole blood is given daily or every other day to prevent anemia.

After the initial stage of burn trauma, forty-eight to sixty hours, edema fluid and sodium are mobilized and diuresis starts. Water may now be substituted for the bicarbonate-saline solution. Acute renal insufficiency is treated conservatively, the fluid intake being limited to urinary output plus adequate allowance for insensible water loss.

Negative nitrogen balance is corrected by the administration of more protein than is required by healthy individuals. Force feeding by a constant drip into the stomach through a small intranasal flexible plastic tube may be done. A whole protein mixture of milk, eggs, dextrose, and protolysate which supplies, per liter, 150 gm. of protein, 346 gm. of carbohydrate, and 57 gm. of fat is excellent. This supplementary feeding is calculated for each patient on the basis of 2 to 4 gm. per kilogram plus hospital meals and vitamins.

Infection of burned areas is avoided as diligently as possible by means of sterile precautions, isolation of patients, and administration of antibiotics. Morale is also important.

Furacin-impregnated gauze is a good covering for acute burns; when infected, dressings wet with a solution of 1:4,000 Zephiran and 0.25% acetic acid in normal saline injected through Dakin tubes are used. If demarcation of a third-degree burn is complete at the first dressing, the slough is removed by the Ferris Smith skin-graft knife in preparation for grafting a few days later.

* Newer concepts in the treatment of severe extensive burns. Surgery 29:154-161, 1951.

Hands are put up in the positions of function, and knee and elbow joints are dressed in extended positions. Extremities are elevated to aid lymphatic drainage and prevent gravitational edema.

The chief advantages of pressure dressings are immobilization and protection against injury and possible infection. Lymph flow from burn areas is excessive even with restrictive bandages. The shifting of local accumulations of edema fluid from the burn to adjacent injured tissues is apparently responsible for the great alleviation of pain by properly applied pressure dressings.

The prime objective in grafting as quickly and completely as possible after a burn is to cover raw surfaces, prevent loss of protein and electrolytes, improve the patient's nutritional status, and avoid excessive scarring and contractures. Cosmetic considerations are deferred until primary healing has occurred. Grafts are cut as thin as possible. A backing of glue-coated rayon allows grafts to lie flat without stitches.

Pyruvic acid may be used for third-degree burns of such depth and extension that all nerve endings are destroyed in the involved skin but produces excruciating pain with lesser burns. The eschar is cross-hatched to permit penetration.

## Rules of Nine for Fluid Loss with Burns

A. B. WALLACE, M.B.*

MASS casualties preclude elaborate procedures for determining fluid requirements of burned patients. For such an eventuality, A. B. Wallace, M.B., of the University of Edinburgh has modified Berkow's "Rules of Nine." Total intravenous and oral fluid required in the first forty-eight hours after burns involving 18% or more of the body surface (see figure) may be calculated from the following formula:


Adults (18 years or over) { 1 bot. plasma / 1 bot. saline } for each 9%

Halve this amount for children (9 years). Maximum number of bottles in forty-eight hours: adult, 12; child, 6.

Oral intake only:
Adult, 9 x 6 cc. per kg. of body weight
Child, 9 x 9 cc. per kg. of body weight

Urinary output per hour:
Adult, 6 x 9 = 54 cc.
Child, 3 x 9 = 27 cc.

Total fluids given in the first forty-eight hours should not raise extracellular fluid volume by more than 50%, nor exceed 10% of the body weight, since distensibility of the extracellular space is limited.

* The exposure treatment of burns. Lancet 260:501-504, 1951.

# Vagotomy for Peptic Ulcer

WALTMAN WALTERS, M.D., AND HIRAM H. BELDING III, M.D.
*Mayo Clinic, Rochester, Minn.*

WALTER I. LILLIE, M.D.*
*Blodgett Memorial Hospital, Grand Rapids, Mich.*

SINCE 1946, section of vagal nerves to the stomach has been employed for peptic ulcers and for stomal or jejunal ulcers recurring after operations with jejunostomy.

The types of case now considered suitable for neurectomy are described by Waltman Walters, M.D., Hiram H. Belding III, M.D., and Walter I. Lillie, M.D. Conclusions are based on 2,889 cases observed postoperatively for one to four years: 331 at the Mayo Clinic and 2,558 collected by the Vagotomy Committee of the American Gastroenterological Association.

Vagotomy should not be done for stomach ulcer. Although hydrochloric acid is reduced, unsuspected malignancy is often neglected, and surgery is frequently followed by persistent ulceration, gastritis, and deficient motility. Effects of gastric resection are far superior.

For treatment of duodenal ulcer, vagal interruption alone has little value. However, the method is combined with gastroenterostomy for nervous middle-aged men, when ulcers cannot be removed.

Nerve section may be done with pyloroplasty or gastroduodenostomy when the duodenal ulcer is small. For the highstrung individual with much free acid, vagi are removed at the time of gastric resection.

If a small gastrojejunal ulcer or inflammation continues after gastroenterostomy, a patient unequal to more taxing operation may benefit from vagotomy.

Much better results are obtained if the anastomosis is undone and gastroduodenal continuity restored. Additional vagotomy tends to reactivate duodenal lesions and is therefore inadvisable.

If nerve section is done without drainage operations, free hydrochloric acid is generally reduced, but in about a quarter of the instances former levels return within four years or less. Only 7% recurrence is noted if either gastroenterostomy or resection is done in addition.

Vagotomy alone abolishes motility of the stomach partly or completely in more than one-fourth of cases, but function is preserved by associated operations in all but 4%.

Symptoms of duodenal ulcer are relieved by neurectomy in more than half of the cases, and in 4 out of 5 when vagotomy is combined with gastroenterostomy.

In prevention of gastrojejunal ulcer, nerve section contributes little to gastroenterostomy and may do

* Physiological and clinical studies of vagotomized patients. Arch. Surg. 62:183-205, 1951.

actual harm. If retention develops, the hospital stay is prolonged, fluid and electrolyte balance disturbed, and constant care required.

When vagotomy is combined with pyloroplasty or gastric resection for duodenal ulcer, 45% of results are unsatisfactory. For therapy of stomach lesions, vagotomy alone is entirely successful in only 27% of cases.

The Hollander insulin test, done immediately after nerve section, indicated all vagus nerve fibers had been cut in 3 out of 5 cases. Results foretell the ultimate effects of operation in 80% of instances.

## Duodenostomy with Subtotal Gastrectomy

JAMES T. PRIESTLY, M.D., AND DONALD B. BUTLER, M.D.*

THE possibility of leakage from the duodenal stump is of paramount importance after partial resection of the stomach by the Billroth II method or a modification. When a proper closure of the duodenal stump cannot otherwise be obtained, duodenostomy should be done, believe James T. Priestly, M.D., and Donald B. Butler, M.D., of the Mayo Foundation, Rochester, Minn., who describe 2 cases in which the method was successfully employed.

Satisfactory healing of the line of closure of the duodenum depends upon careful and accurate suturing, a sufficient amount of suitable duodenal tissue for suture and inversion, an adequate blood supply at the end to be inverted, and prevention of any subsequent increase in intraluminal pressure in the duodenum. The surgeon will always close the duodenum distal to the ulcer as a matter of choice, but proximity of the common bile duct to the line of suture in the duodenum because of shortening of the first part of the duodenum or multiple ulcers or friable tissue may prevent satisfactory closure.

If conditions predispose to postoperative leakage, a latex catheter is inserted into the duodenum and the stump closed around the catheter (see illustration). The catheter is removed when drainage stops, and the tract closes without difficulty. No discomfort or fever attends removal of the tube.

* Duodenostomy: a method of managing the duodenal stump in certain cases of partial gastrectomy. Proc. Staff Meet., Mayo Clin. 26:65-69, 1951.

# Tracheotomy for the Critically Ill Patient

ROY W. DICKMAN, M.D., AND IVAN D. BARONOFSKY, M.D.*
*Ancker Hospital, St. Paul, and University of Minnesota, Minneapolis*

WHEN a patient becomes too ill to expel secretions from his throat and lungs, tracheotomy should be done without delay.

Drainage is more effective than with nasal catheter, and the larynx is not injured. Life is often saved, and even in hopeless cases the airway is cleared and bronchopneumonia is prevented. Roy W. Dickman, M.D., and Ivan D. Baronofsky, M.D., operate at the first indication of respiratory obstruction.

If secretions collect and air flow is reduced, mucus rapidly becomes more viscid, clogging the cilia and dulling the cough reflex. As more air is cut off, cyanosis, cerebral anoxia, and stupor develop, still further deadening response to bronchial irritation.

The unconscious patient originally free of pulmonary symptoms is too often suffocated by sticky mucoid accumulation. If the subject is stuporous, nasal catheter drainage requires a laryngologist and may be necessary every thirty minutes for several days. The larynx is inevitably damaged.

Even in the deepest coma, a catheter inserted through the tracheotomy tube arouses a vigorous cough reflex which empties the small bronchi and bronchioles. Both air and sputum are passed more easily than through the larynx, and the patient's respiratory efforts are much reduced.

Artificial drainage should be started when obstruction is severe enough to cause cyanosis, rapid pulse, and tachypnea. The breathing may be deceptively loud, since air sometimes enters the pharynx, larynx, and upper trachea freely when the bronchioles and alveoli are blocked with mucus. However, auscultation of the chest will reveal poor breath sounds and bronchial rales.

Laryngotomy need not tax depleted strength. A longitudinal incision is made in the suprasternal notch, and bleeders are ligated or cauterized. Avoiding the thyroid gland, the incision is deepened to the trachea.

Elliptical resection of the trachea is unnecessary. A small longitudinal incision is made, and a No. 5 or 6 tracheotomy tube is introduced. Deep tissue is closed with interrupted No. 000 plain catgut, and the skin with No. 0000 silk. To prevent drying of the tracheal and bronchial mucosa, a gauze pad moistened with sterile saline solution or water is placed over the tube entrance.

Large amounts of tenacious sputum are sometimes removed, and suction may be continued for almost twenty minutes at a time. Obstruc-

* Tracheotomy—one solution for pulmonary problems in the critically ill patient. Journal Lancet 71:45-46, 1951.

tive symptoms immediately subside, no complications develop, and the wound heals two to seven days after withdrawal of the tube.

The trachea was opened in 14 surgical cases involving such grave conditions as severe head injury, chest wounds with fractured ribs, hemothorax or tension pneumothorax, third-degree burn from inhalation of hot fumes, ruptured ulcer with peritonitis, and separation of an esophageal suture after the resection of carcinoma.

In 7 instances, relief of impending obstruction was apparently lifesaving. No damage from the suction catheter or pneumonia was found post mortem, and all respiratory passages were clear.

## Intravenous Administration of Fat Emulsion

EDGAR M. NEPTUNE, JR., M.D., AND ASSOCIATES*

SERIOUSLY ill patients may benefit from parenteral administration of a 15% fat emulsion in relatively large amounts.

The calories supplied are considerable, especially when compared with those given by ordinary methods. Utilization of the fat is demonstrated by maintenance of body weight and increased concentration of blood ketones during and after infusion.

Edgar M. Neptune, Jr., M.D., Robert P. Geyer, Ph.D., Irving M. Saslaw, and Frederick J. Stare, M.D., of Harvard University and Peter Bent Brigham Hospital, Boston, gave the emulsion to 9 severely ill patients, 4 of whom received 10 to 21 infusions of 1 liter each.

None of the 9 patients lost weight during the infusion period, and no effects on blood pressure, pulse, respiration, or temperature were noted.

The emulsion contains 15 gm. of coconut oil, 0.5 gm. of a soybean phosphatide preparation, 1 gm. of demal-14, and 5% dextrose solution to make 100 cc. Homogenization and filtration are accomplished under nitrogen by high pressure. The emulsion is autoclaved for fifteen minutes and stored at 24° C. in the dark. Emulsions improperly prepared, stored too long, or containing pyrogenic substances cause febrile reactions.

When the emulsion is first given to a patient, 500 cc. is administered at a rate of about 5 cc. per minute. Close observations of oral temperature, blood pressure, pulse, and respiration rates are made. If no reactions occur, 1,000 cc. is given the next day. The usual rate of infusion is approximately 8 cc. per minute after tolerance is demonstrated.

* Parenteral nutrition. Surg., Gynec. & Obst. 92:365-369, 1951.

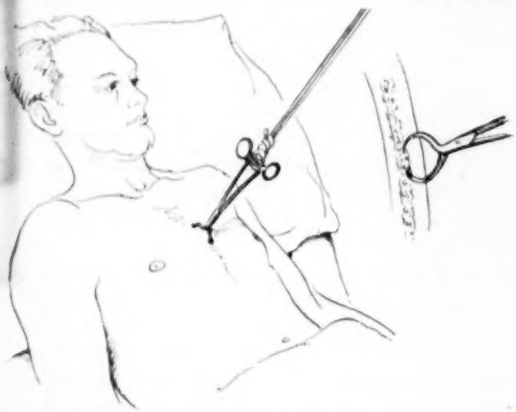
# Sternal Traction in Steering Wheel Injury

WILLIAM W. HEROY, M.D., AND FORREST C. EGGLESTON, M.D.*
*Meadowbrook Hospital, Hempstead, N.Y.*

CHEST injuries causing paradoxic respiration are serious.

The condition is seen with nonpenetrating thoracic injuries, usually from compression of the steering wheel against the chest in an automobile accident. Movements of the unstable chest cage are opposite from those of normal respiration. Other consequences include diminished pulmonary aeration, increased respiratory activity, dyspnea, loss of cough reflex, and anxiety.

William W. Heroy, M.D., and Forrest C. Eggleston, M.D., believe that treatment is dictated by the degree of respiratory distress from paradoxic respiration, which, in turn, is partially dependent on the site of the fractures producing the flail chest.



Sandbags are used when respiratory embarrassment is slight and are preferable to adhesive strapping because the bags may be used over abraded skin and adjusted by the patient. Moreover, thoracentesis may be done. If sandbagging and intercostal nerve block, oxygen, aspiration of pneumothorax or hemothorax, and tracheal suction are inadequate, surgical control of the flail portion of the chest wall is necessary.

The treatment of flail chest by stabilization is determined by the location of rib fractures. The most frequent sites are:

1] *Lateral,* with double fractures of several adjacent ribs in the anterior and posterior axillary lines. In these cases, paradoxic respiration can usually be controlled by sandbagging and conservative measures.

2] *Anterior,* with ribs fractured bilaterally in the anterior chest with or without fracture of the sternum. This is the steering wheel type.

3] *Bilateral,* of the posterior thoracic cage. Paradoxic respiration in this type of injury is uncommon.

Procedures to achieve fixation of the steering

* A method of skeletal traction applied through the sternum in "steering wheel" injury of the chest. Ann. Surg. 133:135-138, 1951.

wheel injury must adequately control the paradoxic respiration and be easy to apply.

The traction must be capable of withstanding 10 lb. for two or three weeks. To prevent the formation of chondritis, the costal cartilages must be avoided.

These criteria are all satisfied by applying traction with a Bennett fracture clamp (see illustration). The clamp is about 10 in. long and has a detachable lock and curved blades with blunt points which describe a circle with a 1-in. diameter.

The clamp is inserted between the inner and outer tables of the sternum. Traction is maintained for sufficient time to permit healing. The two incisions heal rapidly.

## Constant Traction in Removal of Ureteral Calculi

HJALMER E. CARLSON, M.D.*

WHEN one or more calculi are enmeshed in any of the various ureteral baskets, the physician is not always able to withdraw the instrument at the time of operation. Intermittent or continued traction is then employed until the basket and contents are disengaged.

Hjalmer E. Carlson, M.D., of the University of Kansas, Kansas City, uses the following method:

A large plastic washer with a small hole is slipped over the wire and fitted snuggly against the head of the penis. The locking handle of the instrument is tightened against the washer. One or more accordion-like pleats in the penis are necessary to produce enough resilience for traction, which is further increased by intermittent contractions of the levator ani muscles. In the rare case in which erection occurs while the instrument is in place, tension must be released until the erection subsides.

The patient is able to get out of bed unaided, and voiding is accomplished in a standing position. While most patients can be taught to loosen the handle, void, and retighten the instrument, a few may need assistance. In any case, the hospital staff should make frequent checkups, with slow, continuous traction applied manually for about five minutes.

* Technique for transurethral removal of ureteral calculi by constant traction. J. Urol. 64:736, 1950.

# Abdominal Aortography in Urology

I. H. GRIFFITHS, M.B.*
*Middlesex Hospital, London*

For diagnosis of renal disease, abdominal aortography is a valuable supplement to pyelography.

Though once believed dangerous, the procedure caused no deaths among several thousand reported cases.

The method may be employed as an aid to diagnosis and treatment in the following conditions:

Indefinite intravenous or retrograde pyelograms requiring confirmation
Retroperitoneal tumors of uncertain origin
Congenital abnormalities of the kidneys
Hematuria of the upper urinary tract with no related pyelographic changes
Unilateral hydronephrosis
Peripheral vascular disease
Hypertension
Aneurysm involving the aorta or renal or splenic vessels

I. H. Griffiths, M.B., determined the normal arterial pattern of the upper abdomen by postmortem injection of bismuth. Aortography was then performed in 25 cases of renal disease previously diagnosed by pyelography, and in some instances plates were compared with surgical specimens.

The visible pathologic changes were deviation of vessels, aberrant vessels, vascular obstruction, and lack of vascular pattern. Pooling and stasis of the contrast medium and incomplete renogram were also noted.

The lesions delineated included single and multiple cysts, solitary ectopic kidney, adenocarcinoma, suprarenal cortical carcinoma, and seminoma with involvement of paraaortic glands and ureteral obstruction.

The contrast medium is a 70% solution of diodone. Equipment for injection consists of a No. 18 S.W.G. needle, 15 cm. long; 2 record syringes for saline, each holding 20 cc.; a 20-cc. syringe with Labat or Luer-Lok adapter for the opaque material; and a two-way tap with 2 short lengths of pressure tubing attached.

With general anesthesia and the patient prone on the roentgen table, the correct exposure and injection site are determined by trial films.

A lead surface marker is applied at the proposed level of aortic puncture, over the body of the first lumbar vertebra. The needle is connected with the tubing and two-way tap, and the whole system is filled with saline solution.

The skin is punctured on the left side, 4 fingerbreadths from the spinous processes and below the last rib, and the needle is directed toward the marker. When the vertebra is encountered, the needle is withdrawn slightly to avoid the fibers of the crus of the diaphragm.

The point is then aimed more

* A preliminary report on abdominal aortography in urology. Brit. J. Urol. 22:281-303, 1950.

ventrally, past the anterior surface of the vertebral body, until the aorta is pierced. Aortic blood is shown by suction, and saline is injected slowly to prevent clotting in the needle.

The syringe containing contrast medium is attached, and 20 cc. is injected in five seconds. As the last 10 cc. is introduced, 4 loaded cassettes are pushed into place and exposed at two-second intervals.

If the needle enters the aorta over the body of the twelfth dorsal vertebra, the medium passes largely into the celiac axis, and renal vessels are poorly defined. When the first exposures are unsatisfactory, a second set is obtained with simultaneous excretory pyelography to show the relationship of the vessels to the calyces.

A good aortogram reveals both right and left renal arteries and their larger branches within the kidney. As the vascular pattern disappears, diodone enters the collecting tubules, thus providing a true renogram.

The aorta is not hurt by puncture, nearby viscera are unharmed, and reaction to iodine is unlikely, even after inadvertent injection into periaortic tissues.

¶ CHRONIC PROSTATITIS of one to ten years' duration is successfully treated by local injection of penicillin in about 2 of 3 cases, a higher rate than with any other method. W. E. Hatch, M.D., of Duluth, Minn., considers 5 injections of 500,000 units at intervals of five to seven days an adequate trial. After prostatic massage and novocaine injection, a No. 19 spinal puncture needle is inserted 1 in. above the rectal border along the route of perineal prostatectomy. A finger in the rectum guides introduction and raises the gland for direct approach. The larger lobe is injected. When 2 or 3 in. of needle is implanted, the syringe is connected and penicillin injected slowly. Generally, the lobe can be felt to enlarge as the fluid enters.

*J. Urol. 64:763-766, 1950.*

¶ UROLOGIC DIAGNOSIS is aided by routine determination of the sedimentation rate. In evaluating the test, more than 600 cases of common types were analyzed by Jack Hyman, M.D., and Edgar Burns, M.D., at the Ochsner Clinic, New Orleans, and levels above 20 mm. per hour noted. The rate is usually high if urinary infection is associated with obstructive lesions or calculi, but not with simple infection. Elevation distinguishes renal tuberculosis from amicrobic pyuria and, as a rule, malignant renal tumor from benign cyst, Serial rates show progress of disease and are valuable in determining postoperative therapy.

*J. Urol. 64:811-815, 1950.*

# Operations for Cancer of the Bladder

R. H. FLOCKS, M.D.*
*State University of Iowa, Iowa City*

DEATHS from carcinoma of the bladder are decreasing with use of bolder surgical technics.

Ureters are implanted in the lower bowel more and more often, not only to allow greater freedom in therapy but to prevent or reduce upper urinary obstruction and infection. After diversion of urine, tumor sometimes disappears spontaneously, perhaps owing to removal of carcinogens.

In performing partial cystectomy, R. H. Flocks, M.D., takes special pains to resect regional lymph nodes and vessels. During total cystectomy, all the accessible pelvic glands are excised, and a second operation is done to eradicate sacral lymphatics.

The value of radical methods became evident when 540 cases of vesical cancer treated between 1932 and 1942 were compared with a later series. Results also proved that management must be individualized.

Choice of methods depends on number of tumors, grade of malignancy, site of growth, depth of involvement, invasion of the prostate, extension to lymph nodes, state of the upper urinary tract, and the patient's age and general condition.

Necessary information can be obtained through bimanual palpation, cystography, pyelography, cystoscopy, biopsy, and, at times, surgery.

Besides removal of bladder and lymph tissue, the basic types of therapy are loop resection and electrocoagulation, through the urethra or the open bladder, and various forms of irradiation.

Lesions confined to the bladder and within instrumental range may be extirpated by transurethral resection with coagulation at the base. As manipulation is avoided, tumor cells are not squeezed into the circulation.

Heat spreads for some distance beyond the coagulated area and destroys malignant cells already in transit. None can be dropped outside the bladder, since the wall is not penetrated, and vesical function is not altered.

However, the resectoscope may fail to reach lesions growing on the anterior bladder wall, close to the bladder neck, or in the fundus. Open cautery has some advantages if tumors are not numerous but has rather limited use. Although tissues are not extensively handled, tumor cells may be spilled into the pelvis.

Partial cystectomy is advisable for lesions on the anterior wall of the bladder, even if the prostate is superficially involved, and in the fundus. Here both the tumor and associated lymphatics can be excised widely with little manipulation or risk of spillage.

But when cancers encroach on the

* Treatment of patients with carcinoma of the bladder. J.A.M.A. 145:295-301, 1951.

trigone, extensively involve the posterior section of the vesical neck, or occur in large numbers, the bladder should be removed completely with the prostate and seminal vesicles.

Malignant cells may metastasize through the rich network of veins about the bladder neck or in the circulating lymph. Starting in the bladder wall, the lymph channels pass through intercalated nodes of the lateral aspect and prevesical space to the external and internal iliac, sacral, obturator, and common iliac nodes.

Some cases therefore require intensive combined therapy. Preoperatively, high-voltage roentgen radiation is applied to seal small blood vessels and lymphatics. Partial or complete cystectomy is then done, and residual lymph tissue may be obtained by pelvic viscerectomy.

If carcinoma is inoperable, much discomfort can be relieved by palliative measures. Transurethral resection and electrocoagulation may be done. Ureterointestinal anastomosis is assuming steadily greater importance.

## N-Butanol for Relief of Postoperative Pain

BERNARD WELT, M.D.*

THE idea that wound pain results largely from local acidosis or alkalosis offers a new method of treatment.

To neutralize postoperative tissue acidity, Bernard Welt, M.D., of the Brooklyn Eye and Ear Hospital injects the base, n-butyl alcohol. Pain relief after common procedures involving the eye, ear, nose, and throat is much greater with this therapy than with ordinary analgesics.

According to Revici's theory, metabolic disturbance after injury causes lipoacids to accumulate in damaged cells and produce alkaline sodium compounds, which stimulate alkaline pain. At other times lipobases in tissue produce organic acids and acid pain. During the first four to six days after operation the first type predominates.

The n-Butanol is injected intramuscularly in 7.9% dilution with isotonic saline solution. Adults receive 5 to 10 cc. per dose and children under twelve years 0.5 cc. for each year of age. From 250 to 300 cc. may be given daily in divided doses.

A group of 938 patients, 402 children and 536 adults, received one or more doses, while 610 children had only saline injections. The adults had had various types of head, chest, or neck surgery; the children had all had tonsillectomies and adenoidectomies. Pain was relieved by the new agent in approximately 90% of cases, usually within fifteen minutes and often in five. From 16 to 32% of the patients given salt solution alone appeared to benefit also.

* N-Butanol: its use in control of postoperative pain in otorhinolaryngological surgery. Arch. Otolaryng. 52:549-564, 1950.

# Modern Treatment of Syphilis

EVAN WILLING THOMAS, M.D.*
*New York University, New York City*

INTRODUCTION of slowly absorbed procaine penicillin in oil and aluminum monostearate has greatly simplified the treatment of all types of syphilis. In the large majority of cases, therapy can be completed within fifteen days.

For early acute syphilis, Evan Willing Thomas, M.D., recommends an initial injection of 1,200,000 units of procaine penicillin in oil and aluminum monostearate. This is followed by daily injections of 600,000 units for five days, or 1,200,000 units at less frequent intervals. The administration of weekly injections over a period of three or four weeks appears to have no advantages over less prolonged therapy.

For all types of neurosyphilis, the recommended treatment is daily injection of 600,000 units of procaine penicillin in oil and aluminum monostearate for fifteen days. A total dosage of 6,000,000 units, given over a period of not less than ten to fifteen days, is adequate for other types of late syphilis; injections may be given daily or every other day.

The total amount of penicillin should be doubled for the treatment of relapse. In relapsing or very resistant cases of neurosyphilis, several periods of treatment with increasing doses may be necessary.

Permanent penicillin sensitivity is rare and is readily diagnosed by positive intradermal or patch tests. Most patients tolerate penicillin well several weeks after the initial sensitivity reaction has subsided. When sensitivity persists or the infection is not arrested by penicillin, aureomycin in doses of 4 gm. daily for ten to fourteen days may be tried.

Blood serologic tests for syphilis are poor indicators of the activity of infection in late cases. Seronegativity cannot be obtained for ten or more years after treatment in at least 70% of patients with late syphilis. In general, however, high reagin titers gradually fall to lower levels within a year after successful therapy. Sharp sustained rises in previously low titers usually indicate need for re-treatment.

Seronegativity continuing for a period of years after therapy for early syphilis usually means cure. Relapse when serologic reactions are negative is extremely rare.

The spinal fluid examination usually provides reliable information on the activity of neurosyphilis. Increased cell count and augmented total protein of the spinal fluid with positive specific reaction for syphilis, except in rare cases, represent syphilitic inflammation in the central nervous system. Following successful therapy, pleocytosis disappears within three to four months and total protein determinations gradually de-

* Modern treatment of syphilis. Bull. N. Y. Acad. Med. 27:175-185, 1951.

cline to normal values within a year. A failure of the cell count to become normal within three or four months, recurrence of pleocytosis, and rising values in other tests are indications for re-treatment.

Patients with neurosyphilis rarely, if ever, have relapses more than two years after the spinal fluid examination indicates inactivity of the disease. Treatment with 6,000,000 to 9,000,000 units of penicillin over a period of fifteen days has arrested all types of active neurosyphilis in over 90% of patients observed for more than three years.

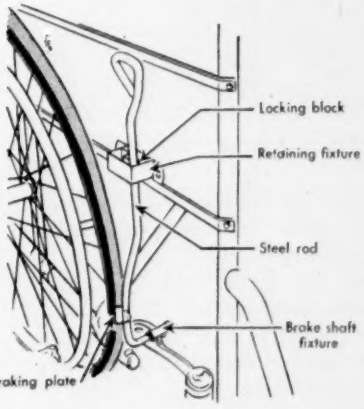
Penicillin medication is apparently just as effective as malaria therapy in the treatment of patients with neurosyphilis.

## Serviceable Brake Attachment for Wheel Chairs

HARRY T. ZANKEL, M.D., AND PAUL DOELKER*

Good brakes are desirable to immobilize a wheel chair for work or eating and for patients whose hands and arms are too weak to control the chair wheels on inclines.

Harry T. Zankel, M.D., and Paul Doelker of the Crile Veterans Administration Hospital of Cleveland, describe brake attachments for use on both wheels that are serviceable and easy to make (see illustration).




The principal unit of each brake is a bent $\frac{5}{16}$ in. steel rod that fits into the brake shaft fixture on both left and right lower rung. A metal braking plate approximately $1\frac{1}{2}$ by 1 by $\frac{1}{8}$ in. thick, shaped to the general contour of the wheel, is brazed or welded to the $\frac{5}{16}$ in. steel rod. A sheet metal retaining fixture is fastened by sheet metal screws to each side of the wheel chair.

The wooden locking block fits inside each retaining fixture and is fastened to the side of the chair by round-headed wooden screws running through holes drilled in the metal side and tightened into the locking block.

* Brakes for wheel chair. Arch. Phys. Med. 31:776-777, 1950.

# Ring Retraction for Hemorrhoidectomy

PAUL C. BLAISDELL, M.D.*
*Pasadena, Calif.*

SUPERIOR retraction and exposure in hemorrhoidectomy are obtained by means of a 12-point suspension of a continuous suture with a ring retractor.

**Fig. 1. Placing initial stitch**

When this method is utilized, the entire mass of internal-external hemorrhoids is made to lie in an almost flat plane, wholly outside the anal sphincter, and the demarcation between normal and pathologic tissue becomes sharp. This procedure lessens the dangers of sphincter injury and removal of too much or too little tissue.

Consequently, the incidence of such complications as incontinence, stenosis, excessive pain, hemorrhage, delayed healing, and recurrence is reduced. The amount of normal tissue remaining when the ring is removed is greater than that left by other operative methods.

The technic of hemorrhoidectomy using a ring retractor is described by Paul C. Blaisdell, M.D., as follows:

The ring is held by continuous fine silk suture engaging tissue just outside all external hemorrhoidal tissue (Fig. 1). Each stitch is placed exactly between the traction posts on the ring, the suture being carried around the traction post between each stitch. Each succeeding suture is placed on an imaginary circumference inside those preceding. After 2 or 3 bites, the ring is adjusted so that the final position remains concentric to the anus.

**Fig. 2. Exposed field**

This procedure produces even tension at multiple points (Fig. 2) and

* A simple pattern for a competent hemorrhoidectomy. Surg., Gynec. & Obst. 92:140-148, 1951.

converts the operative field into a single flat, taut plane. The hemorrhoids lie loosely against the taut background, and the furrows between normal and pathologic tissue thus become sharp and distinct.

A fluffed gauze sponge is circled between the retractor and the buttocks, outside the operative field. The anus is then gently entered with the forefinger and thorough inspection may be made, if desired, with a Sims speculum.

The upper limit of each internal hemorrhoid is determined by observing the abrupt transition of normal grayish anal mucosa to the red surface of the hemorrhoid. An Allis forceps is placed at this point, each prong engaging a lateral sulcus of the hemorrhoid to be removed. A stitch is placed here for hemostasis and to delineate the sulci for dissection.

Dissection is begun in each lateral furrow and the two incisions are joined around the outer border of the hemorrhoid. Care is taken to adhere exactly to the sulcus.

The plane below the veins is easily identified and the division is carried inward along this plane until the first sphincter fibers are encountered. Dissection is then stopped.

The base of the hemorrhoidal flap is secured by a mattress or purse-string suture from the point of the previously placed initial suture to the point of tissue last exposed by dissection. A ½-in. stump is left as the hemorrhoidal flap is cut off.

All the hemorrhoids are disposed of in the same manner. Each wound is then brought to proper shape before removal of the ring retractor, and afterward. Annoying residual skin tags are thereby prevented.

¶ FUNCTIONAL VOMITING may be stopped by oral administration of Emetrol, a carbohydrate–phosphoric acid solution. The usual dose for children is 5 cc. at fifteen-minute intervals for 4 doses. For severe attacks and for older children, 10 to 15 cc. may be given at the same intervals. Infants are given 2.5 to 5 cc. fifteen to thirty minutes before feedings. J. Edmund Bradley, M.D., and associates at the University of Maryland, Baltimore, report that vomiting ceased after treatment in each of 172 cases of epidemic disease, in 29 of 43 cases of regurgitation in infants, and in 15 of 17 toxic cases. Motion sickness was prevented for all of 11 children regularly subject to nausea when traveling in automobiles, by administration of 5 to 10 cc. before starting a trip, and at hourly intervals thereafter if the journey was protracted. The children had all failed to benefit from therapy with phenobarbital, atropine, or other drugs. Treatment should be supplemented by maintaining the patient on a low-fat, high-carbohydrate, low-residue diet, and banning milk and citrus fruits for twenty-four hours.

*J. Pediat. 38:41-44, 1950.*

# Mediastinal Vascular Anomalies

ROBERT E. GROSS, M.D., AND EDWARD B. D. NEUHAUSER, M.D.*
*Harvard University, Boston*

ABNORMAL or displaced vessels in the superior mediastinum can compress the trachea or esophagus or both and partially obstruct these vital pathways. Modern thoracic surgery may relieve the obstructive symptoms caused by such vascular malformations.

Symptoms of tracheal or esophageal obstruction usually first appear in infancy or early childhood. An esophageal compression may produce hesitation in swallowing. The child is hungry and eager for food, will suckle and begin to swallow, but has difficulty getting the bolus started along the esophageal pathway.

Some of the food passes down, while the remainder stays in the pharynx for a considerable length of time or is expectorated. After several attempts to swallow, the child may temporarily refuse to try again. Dysphagia may appear only when solid or semisolid food is added to the diet.

The symptoms produced by tracheal narrowing are often alarming. The respiratory rate may be increased. The child obviously works hard to obtain adequate exchange of air. The accessory muscles of respiration are used and intercostal and suprasternal retraction occur during inspiration. Respiration is apt to be of a crowing type with a distinct inspiratory and expiratory stridor. The baby often lies with head hyperextended, because this position attenuates the trachea and pushes away any structure which is impinging on the anterior surface. If the examiner flexes the child's head, the exchange of air is reduced or completely cut off, though movements of the thorax continue.

Roentgenologic examination may show poor aeration of the lungs during inspiration with hyperaeration during exhalation. Lateral films reveal much reduction in the caliber of the lower portion of the tracheal air shadow. A swallow of barium will outline an indentation in the posterior wall of the esophagus, and injection of Lipiodol into the trachea shows constriction of the anterior lower portion. Roentgen examination is also desirable to differentiate the condition from a mediastinal tumor or cyst.

Robert E. Gross, M.D., and Edward B. D. Neuhauser, M.D., have operated on 40 patients with compression of the trachea and esophagus from vascular anomalies. Of these, 4 patients died. The others experienced great relief.

The following five types of vascular malformations were treated:

1] *Double aortic arch* is produced by bifurcation of the ascending aorta. One limb passes anterior to the trachea, the other behind the esopha-

* Compression of the trachea or esophagus by vascular anomalies. Pediatrics 7:69-83, 1951.

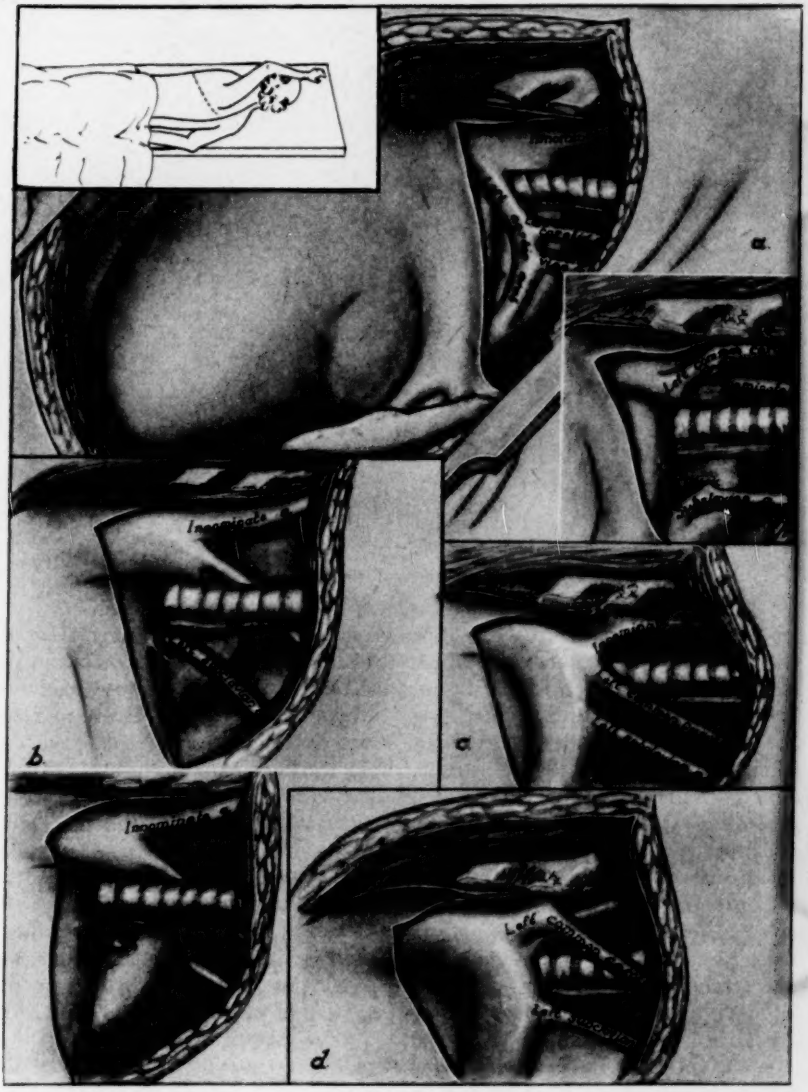


Fig. 1. Correction of anomalies of aorta and innominate and carotid arteries

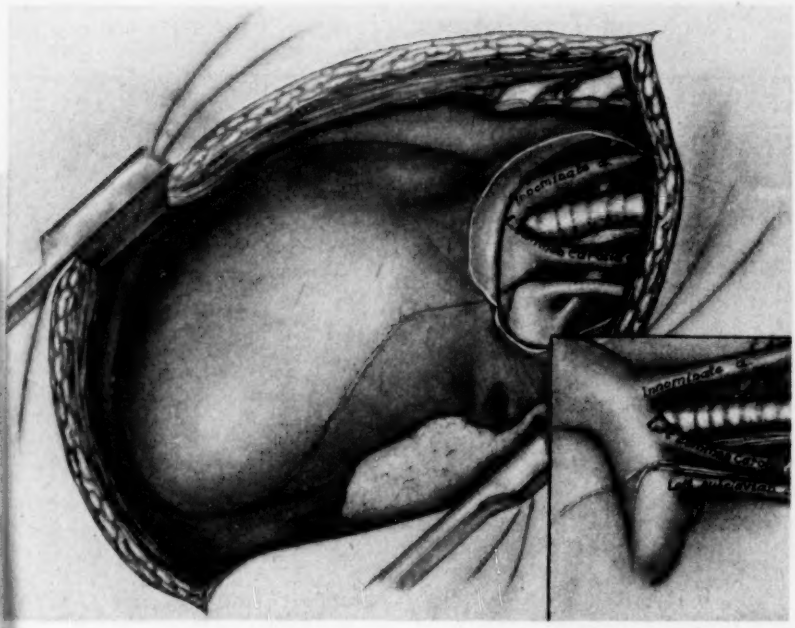


**Fig. 2. Ligation and division of aberrant subclavian artery**

gus. These two structures are thus enclosed in a vascular ring which may narrow the lumens.

Alleviation is obtained by dividing the smaller arch, usually the anterior limb, and the ligamentum arteriosum and suturing the left common carotid to the back of the sternum to prevent pressure upon the anterior surface of the trachea (Fig. 1*a*).

2] *Right aortic arch associated with a left ligamentum arteriosum* may form a ring which compresses the trachea and esophagus. Division of the ligamentum arteriosum relieves the compression (Fig. 1*b*).

3] *Anomalous innominate artery* which originates at a point farther along on the arch than normal may compress the trachea in crossing to the right apex of the thorax. Correction consists of pulling the innominate artery forward away from the trachea and suturing the vessel to the sternum (Fig. 1*c*).

4] *Anomalous left common carotid artery* which branches from the aortic arch more to the patient's right than is customary may also compress the anterior surface of the trachea in crossing. Therapy consists in pulling the carotid artery forward and fixing it with mattress stitches through the substance of the sternum (Fig. 1*d*).

5] *Aberrant subclavian artery* that branches from the distal part of the aortic arch instead of from the innominate artery may pass behind the

esophagus to reach the right apex of the chest. Esophageal obstruction may result. Symptoms can be alleviated by doubly ligating and dividing this aberrant vessel (Fig. 2).

Operative approach for mediastinal vascular anomalies is preferably through a left anterolateral incision. When the procedure involves the division of a vessel or ligament, any accompanying strands or bands of tissue should also be cut.

Chemotherapy is given to control respiratory infection. Oxygen is administered postoperatively for several days.

## Formaldehyde Treatment of Warts

FRANCIS W. LYNCH, M.D., AND IRVINE M. KARON, M.D.*

WARTS resistant to ordinary treatment may be removed by formaldehyde ointment applied at home for two or three months.

The method is especially suitable for large or numerous growths about the nails, where electrosurgery or radiotherapy might leave unsightly deformity, and for palmar or plantar warts, if lesions are numerous and irradiation would take too long, or when a course of radiotherapy has already been given and further treatment is contraindicated.

Even if not entirely destroyed, periungual lesions may become smaller or plantar warts fewer, so that other forms of therapy are practical.

To most patients, Francis W. Lynch, M.D., of the University of Minnesota, Minneapolis, and Irvine M. Karon, M.D., of St. Paul give 15 gm. of a mixture containing 3 or 4 cc. of formalin in Aquaphor. If lesions appear refractory, either before or after trial, formalin content is increased to 6 cc.

The ointment is rubbed on gently with a cotton-tipped applicator twice daily for a week or two, then once every one to three days, often enough to keep tissue hard. No dressing is needed. The surface of the lesion is shaved every week or two, usually by the physician.

To avoid problems that might result from sensitization, this treatment is not given to chemists, medical personnel, and other workers with formaldehyde. Salve should not be applied to common warts except on the tough skin of hands and feet.

Warts were eradicated in 32 of 56 cases, although more than four months of application was required for a patient with 23 palmar lesions. Plantar growth disappeared in 68% of reviewed cases, periungual in 81%, and common warts in 76%. Outcome in others was apparently good but not positively known.

* Formaldehyde in the treatment of warts. Arch. Dermat. & Syph. 62:805-813, 1950.


MULL-SOY first...

When it is established that the offending agent in infantile allergy is cow's milk, good nutrition can still be maintained with a milk replacement. Hill recommends, in true milk allergies, a milk-free food such as Mull-Soy, since there are "so many crossed reactions" between the proteins of cow's and other animal milks.*

Mull-Soy is the nutritional replacement of choice for patients, *young or old,* who display a true allergy to animal milks. Mull-Soy supplies (in standard 1:1 dilution) essential protein, fat, carbohydrate and minerals in values comparable to those of cow's and goat's milk. The fat in Mull-Soy is soy oil which is a good source of unsaturated fatty acids and which does not form volatile fatty acids in the intestinal tract.

Mull-Soy is a liquid, palatable, homogenized (vacuum packed) food —easy to take, easy to prescribe. Available in drugstores in 15½ fl. oz. tins.

*Hill, L. W.: New England J. Med. 242:288, 1950

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¶ NEUROSURGICAL INFECTIONS may be prevented or checked by local application of Bacitracin, with or without systemic injection of penicillin, Bacitracin, or both. Up to 50,000 units daily can be introduced into brain tissue or ventricles without harm. Paul Teng, M.D., Ira Cohen, M.D., and Frank L. Meleney, M.D., of Mount Sinai Hospital and Columbia University, New York City, treated 61 clean or infected wounds with good effects in most cases. The surgical conditions included chronic osteomyelitis, septic meningitis, brain abscess, compound skull fracture, and postlaminectomy infection.

*Surg., Gynec. & Obst. 92:53-63, 1951.*

## Diagnostic Use of the Pendulous Leg Test

ROBERT WARTENBERG, M.D.*

ACCURATE appraisal of muscle tonus, important in diagnosis of many neurologic lesions, may be accomplished by having the patient sit on a table with his legs dangling freely.

The patient's legs are lifted simultaneously by the examiner to the same height and then released so that they will swing freely. Unhindered, involuntary, completely automatic swinging is essential. Robert Wartenberg, M.D., of the University of California, San Francisco, advises that the patient's attention be diverted from his legs in order to avoid tenseness.

If the patient is healthy, the legs will swing smoothly and regularly six or seven times after displacement in a strictly anteroposterior plane. With paralysis agitans, postencephalitic parkinsonism, and other diseases which produce rigidity due to extrapyramidal involvement, swinging time is reduced.

The test is particularly useful for the diagnosis of unilateral parkinsonism.

In pyramidal disease the leg swing is jerky and irregular. Movement forward is brisker than backward, the range of backward movement is diminished, and swing is in a zigzag, elliptic spiral, broken circle, or other erratic pattern instead of in a straight line.

When muscular hypotonia is prominent in the neurologic disturbance, whether due to cerebellar or lower neuron involvement, the over-all swinging time is increased.

If one leg swings for a longer time than the other, presence of some abnormality may be assumed and the test should be repeated several times to ascertain the difference.

* Pendulousness of the legs as a diagnostic test. Neurology 1:18-24, 1951.

# Head Injuries

A. EARL WALKER, M.D.*
*Johns Hopkins University, Baltimore*

CAREFUL initial examination and close observation of the patient in the immediate posttraumatic period are the most important factors in the treatment of head injuries.

The initial survey should pay particular attention to the vital processes. Shock is usually easily combatted by a few hundred cubic centimeters of saline. Blood or plasma is rarely required.

Maintenance of adequate pulmonary ventilation is of paramount importance. The patient should be placed prone with his head turned to one side, so that secretions will drip out and the tongue will fall away from the pharynx. Intratracheal intubation or tracheotomy may be necessary to keep the airways patent.

Changes in the state of consciousness in the period after a head injury are of great diagnostic importance. The sequence of a lucid interval followed by coma has been considered indicative of cerebral compression by a dural hemorrhage. Actually, less than 25% of these cases are the result of hemorrhage, but trephination is the only way of substantiating the possibility of this complication. If, after a head injury, a period of consciousness is followed by progressively deepening coma, burr holes should be done as an emergency measure. Under modern conditions, this woodpecker surgery does no harm even if no hematoma is present.

Dural hemorrhage is likely if progressive focal signs of neurologic dysfunction are found. The most reliable localizing sign is an ipsilateral pupillary dilatation. Hemiparesis on the side opposite the dilated pupil is the next most common finding but may occur on the ipsilateral side because of compression of the peduncle against the tentorium.

Diagnosis of a progressive hemorrhagic lesion is difficult when a patient never regains consciousness. Changes in pulse rate, blood pressure, and respiration cannot be relied upon as indications of increasing intracranial pressure.

If the coma deepens or continues unchanged, trephination should be performed. Even if no hematoma is found, the surgeon may be able to remove necrotic, lacerated brain tissue or relieve pressure on the brain stem by cutting the tentorium. Prolonged unconsciousness is indicative of severe damage to the brain stem.

A. Earl Walker, M.D., points out that special diagnostic procedures are of little value in the acute stages of a head injury. A lumbar puncture is advisable in every case of suspected head injury simply to establish evidence of subarachnoid bleeding for legal purposes.

Roentgenograms of the skull are

* Practical considerations in the treatment of head injuries. Neurology 1:75-84, 1951.

best deferred until the patient is convalescent, unless the clinical findings indicate a surgical complication, such as dural hemorrhage or depressed fracture. Electroencephalography is of diagnostic and prognostic importance in chronic phases.

Occasionally, special problems arise in the treatment of craniocerebral injuries. Restlessness is best allayed by special nursing care and the use of drugs. Paraldehyde is effective in such cases. Barbiturates may be necessary. Morphine should be avoided because of medullary depressant effects. Catheterization of a full bladder or the removal of a small amount of bloody spinal fluid may relieve an agitated patient.

The classical methods of treating cerebral edema have never been conclusively proved of value. The maintenance of adequate pulmonary oxygenation and normal fluid and electrolyte balance is as effective as repeated lumbar puncture, hypertonic solutions, and subtemporal decompression.

Antibiotic agents should be given to all patients with bleeding or discharge from the nose or ear. If rhinorrhea continues for a week or if meningeal infection is evident, surgical intervention should be considered. With the use of antibiotics, the surgical treatment of scalp wounds may safely be postponed for twelve or more hours.

## Chronic Bursitis

THEODORE T. STONE, M.D.*

MUCH needless pain results from failure to recognize chronic bursitis of the shoulder and arm.

In 13 of 19 cases reported by Theodore T. Stone, M.D., at Northwestern University, Chicago, the condition had persisted for eight to twenty-three months without correct diagnosis; 16 involved subdeltoid and 3 acromial bursae.

The bursae and supraspinatus tendon are usually very tender. Motion is limited by severe pain of the shoulder or arm; but muscular strength, deep reflexes, and sensation are unchanged. An irregular calcified ring or patch is usually seen on roentgenograms.

The condition must be differentiated from other painful disorders such as arthritis, fracture, dislocation, cervical rib, the scalenus anticus syndrome, and tumor of the joint.

Roentgen therapy may be applied to the calcified area four or five times in two or three weeks. Pain is increased initially but may subside permanently about two weeks after the last exposure.

Alternative treatment consists of surgical removal or injection of a local anesthetic in doses of 3 to 5 cc. under fluoroscopic control.

* Bursitis. Illinois M. J. 98:335-337, 1950.

# Recurrent Dislocation of the Shoulder

ERNEST A. BRAV, M.D., AND WILLIAM H. GULLEDGE, M.D.*

*Letterman Army Hospital, San Franciso* *Tripler General Hospital, Honolulu*

THE Putti-Platt operation, requiring neither special instruments nor exceptional surgical abilities, is effective in most cases of recurring shoulder dislocation, regardless of the cause of underlying disease.

Being a weak apparatus with lax capsule and an inadequate articular cup, the shoulder joint is vulnerable to dislocation. Stability is dependent upon adequacy of the surrounding muscular structures.

Recurrent dislocation is most frequent among young athletes and epileptics and probably results from injury sustained by trauma, severe or slight. Subsequent dislocations follow injuries of lesser degree.

After the initial episode, reduction is usually spontaneous or by the patient's own manipulation. Subsequently pain is not intolerable and disability is inconsequential, but the patient often desires correction because of apprehension and embarrassment.

Motion is not limited, although the patient often restricts movements voluntarily because of fear of dislocation. Atrophy, contracture, muscular insufficiency, and shoulder girdle weakness do not occur. Though ordinary roentgenograms are not revealing, films made in the position of internal rotation and tangential views with the tube lateral to the patient's elbow frequently show changes such as flattening or grooving of the humeral head, a vertical sclerotic line at the edge of the groove, cystic changes in the head, lipping of the glenoid rim, or loose bodies.

Among 39 patients with recurrent shoulder dislocation, Col. Ernest A. Brav, M.C., U.S.A., and Cmdr. William H. Gulledge, M.C., U.S.N., found only 20 with sufficient disability to require operation. The Putti-Platt operation was employed in all instances. No recurrence or disability has been noted and the patients are all pleased with the early postoperative results.

The skin incision is started at the acromioclavicular joint, curving well medially to the coracoid process and continuing in the line of the deltopectoral groove. The pectoralis major is separated from the deltoid, and the cephalic vein is either retracted or ligated and excised. The deltoid is divided transversely ¾ in. below the clavicular attachment, then peeled laterally from the front of the shoulder.

The conjoined tendon is divided at a level ½ in. below the coracoid process. Extreme external rotation of the shoulder now exposes the belly of the subscapularis muscle which covers the front of the shoulder

* Impressions concerning the Putti-Platt reconstruction operation for recurrent shoulder dislocation. Surgery 29:82-96, 1951.

joint and the three horizontal veins crossing the lower portion of this muscle. With the placing of 3 holding sutures in the belly of the muscle, the capsule of the joint is exposed by a vertical incision dividing the subscapularis at a point ¾ in. medial to this muscle's tendinous attachment to the lesser tuberosity.

margin is exposed by internal rotation of the shoulder and insertion of the fist of an assistant into the axilla to lever the head of the humerus away from the glenoid cavity. A complete examination of the area is made for loose bodies, structural anomalies, and separation of the glenoid labrum from the rim.

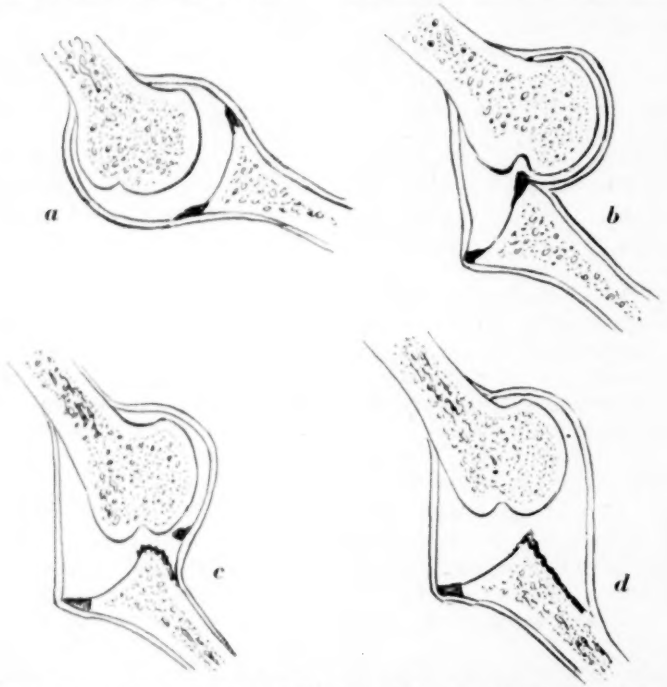



**Fig. 1. Schematic Drawings of Horizontal Section of Shoulder Joint**

**Pathologic findings: [*a*] normal relationship; [*b*] dislocation into distended capsule with insufficiency of anterior glenoid labrum but no separation or capsular stripping; [c] moderate separation of anterior glenoid labrum and moderate capsular stripping; [*d*] complete detachment or absence of anterior labrum with extensive capsular stripping.**

After 3 holding sutures are affixed to the anterior capsule, the structure is incised vertically. The glenoid

Repair is begun by the insertion of 3 strong catgut sutures into the remains of the glenoid labrum or the

capsular reflexion. With the shoulder internally rotated, 3 sutures are fastened to the lateral stump of the subscapularis muscle, while a forceps holds the muscle firmly against the glenoid margin and an assistant pulls on the capsular-holding sutures to ensure free overlapping of the capsule on the subscapularis stump.

The medial capsular layer is retracted laterally and fastened to the fascia and periosteum in the region of the greater tuberosity. Finally, the medial edge of the subscapularis is secured to the tissues near the tuberosity by lateral traction on the holding sutures in the muscle.

The procedure forms an anterior supportive ligament by the stump of the subscapularis tendon with reenforcement by the plicated capsular and muscle layers. Rotation is only slightly limited and the limitation results from the transfer of the attachment of the subscapularis muscle and possibly from the shortening of the capsule.

The tightening of these structures

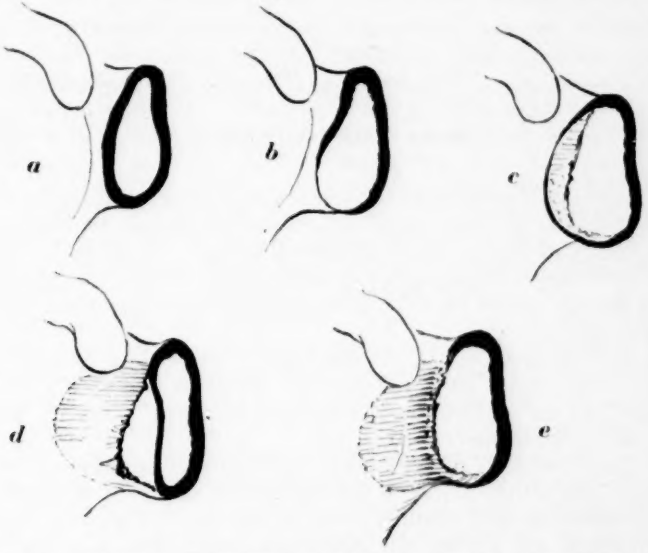



**Fig. 2. Schematic Drawings of Glenoid Cavity with Head of Humerus Removed**

**Operative findings: [*a*] normal glenoid labrum; [*b*] deficiency of anterior and inferior portions but no detachment of the labrum or exposure of raw bone; [*c*] moderate detachment of anterior and inferior parts of labrum with roughened glenoid margin exposed; [*d*] pronounced detachment with glenoid labrum extending into the joint like a bucket-handle meniscus; and [*e*] complete absence of anterior and inferior portions of labrum. Exposure of raw bone is extensive in both *d* and *e*.**

seems to comprise the basic correction which prevents recurrence.

To avoid atrophy of the biceps and deltoid muscles, shrugging exercises are taught preoperatively and begun ten days after surgery. A muslin bandage support in the Velpeau position is worn for four weeks, when a sling is used and active elbow and shoulder exercises are started. The elbow is gradually straightened and the sling may be discarded in a few days. Physical and occupational therapy are then intensified.

## Refrigeration Therapy for Chronic Osteomyelitis

ROBERT BINGHAM, M.D.*

CRYOTHERAPY combined with absolute bed rest, immobilization, and penicillin may obviate surgical procedures for chronic osteomyelitis. If drainage of the abscess with removal of the sequestrum or obliteration of the cavity is necessary, refrigeration hastens healing. Low temperatures inhibit bacterial multiplication and enhance the effects of penicillin.

Robert Bingham, M.D., of the College of Medical Evangelists, Loma Linda, Calif., starts refrigeration as soon as osteomyelitis is diagnosed. If the organism can be isolated by culture, tests are made for penicillin-sensitiveness.

A small lesion is covered with a moist towel on which 1 or 2 icecaps are placed. Large, acute lesions require 1 or 2 layers of moist toweling, with crushed ice over the towel. Toes and fingers can tolerate 57° F.; the calf and upper extremities, 36 to 38° F.; and the thigh, 32° F.

The ice is removed for an hour once or twice daily to observe circulation and the extent of infection. If, after an hour, the skin over the lesion does not become warmer than that of the opposite healthy leg, refrigeration is discontinued. Otherwise the ice is applied for five to fourteen days, or until inflammation subsides.

Penicillin, 300,000 or 400,000 units twice daily, is given intramuscularly, usually for five to twenty days. The dosage is reduced for children. The extremity is elevated and immobilized by splints during the active phase of infection.

Operation, when necessary, is done after twenty-four to forty-eight hours of refrigeration. Irrigation with penicillin solution is done before closure. Postoperatively, ice is applied to the surgical dressings for about five days or until the patient's fever has subsided and the wound is well healed. Systemic penicillin is usually given for seven to ten days after operation.

* The refrigeration treatment of chronic osteomyelitis. California Med. 74:108-110, 1951.

# Vitamin-resistant Rickets

HERBERT E. PEDERSEN, M.D., AND H. R. MC CARROLL, M.D.*
*Washington University, St. Louis*

DWARFISM frequently results from a form of rickets that requires treatment with massive doses of vitamin D, from 100,000 to 1,500,000 units daily. Usual vitamin dosage is ineffective.

Herbert E. Pedersen, M.D., and H. R. McCarroll, M.D., find that the disease is not rare and has a definite familial tendency. Of 25 patients studied, 16 belonged to 10 family groups, in each of which at least 1 parent had the disease.

The vitamin-resistant condition in children produces the physical and roentgen sign of ordinary severe rickets. The results of laboratory studies also coincide with usual findings for rickets. Yet, despite treatment with 20 to 75 drops of cod-liver oil concentrate fortified with from 3 to 4 tsp. of percomorph oil daily, florid rickets continues to be demonstrable.

Adult patients are usually less than 5 ft. tall. Most of the shortening is in the legs, which are often deformed. The abnormalities, including bowlegs and knock-knees, tend to recur after osteotomy. Ligamentous instability is common and often causes pain. Skull deformity is frequent.

The condition may be mistaken for achondroplasia, dyschondroplasia, chondrodysplasia, or a combination of these diseases with rickets. Differentiation can be established by means of urine and blood chemistry studies.

Inorganic phosphorus is decreased. For most patients, the greatest level is 3.3 mg. per 100 cc. of serum and the minimum is below 3 mg. Serum calcium may be slightly low. The serum alkaline phosphatase is increased, varying from 12 to 20 plus Bodansky units.

Other indications are diminished urinary calcium as shown by the Sulkowitch test, which is negative or shows a bare trace, as opposed to a 1 or 2 plus reaction for healthy persons. The fecal content of calcium and phosphorus is augmented. No evidence of acidosis, deranged carbohydrate metabolism, or hepatic disease is found. The kidney, liver, and alimentary tract do not appear involved.

Vitamin-resistant rickets may be distinguished from renal acidosis and the Fanconi syndrome by the decreased urinary calcium excretion, glucose, albumin, or amino acids in the urine, and normal plasma electrolytes.

Treatment is based on the threshold concept. Separate determinations of threshold and toxicity levels must be made for each patient.

The effect of long-continued treatment with massive vitamin D doses is unknown. A few calcium casts

* Vitamin-resistant rickets. J. Bone & Joint Surg. 33A:203-220, 224, 1951.

in the urine are not significant, but when many casts or hematuria appears, the disturbance may rapidly be reversed by discontinuing treatment and forcing fluids. Toxic effects are seen only from hypercalcemia. Serum calcium levels above 12 mg. per 100 cc. of serum may result in nephrocalcinosis; generalized metastatic calcification occurs at levels above 16 mg.

Since the margin is relatively narrow between threshold and toxicity levels, the logical long-term dosage schedule should be determined by urinary calcium excretion, serum alkaline phosphatase levels, and roentgen evidence of improvement at the epiphyseal line. Healing will occur when the Sulkowitch test is consistently 1 to 2 plus, even though the product of the serum calcium and phosphorus is close to 30. If at that level the serum alkaline phosphatase gradually declines and progressive healing is shown by roentgenogram, a satisfactory level has been reached. Monthly or bimonthly determinations of the serum calcium and phosphorus are important, for tolerance to a constant vitamin dosage has been observed with no effect on serum calcium, only to be followed by a gradually increasing calcium level to a state of toxicity.

The disease becomes less severe after the age of epiphyseal closure, but some adults require continued vitamin therapy.

¶ PUDENDAL BLOCK, the preferred anesthesia for Read's method of natural childbirth, is greatly facilitated by hyaluronidase. Both vulva and perineum are rapidly and completely desensitized and relaxed without tissue distention. The solution employed by Frank E. Baum, M.D., at Maumee Valley Hospital, Toledo, contains 50 cc. of 0.5% procaine, 1 cc. of 1:1,000 epinephrine, and 300 units of Hydase. Using Beck's technic, 5 cc. is injected on each side of the pudendal nerve, bilaterally near the clitoris, and near each ischial tuberosity.

*Am. J. Obst. & Gynec. 60:1356-1358, 1950.*

¶ UTERINE CARCINOMA may result from estrogen-producing tumors of the ovary. Of 87 women with granulosa or theca cell growths, 16 had malignant disease of the womb, a higher rate than could be expected from chance alone. In addition, 3 of the patients had mammary cancer, found Malcolm B. Dockerty, M.D., and Elizabeth Mussey, M.D., of the Mayo Clinic, Rochester, Minn. All patients with uterine complications were more than 50 years old, and 27% of the patients over 50 with ovarian tumor had uterine neoplasms. Thus, a carcinogenic effect of estrogens is strongly suggested.

*Am. J. Obst. & Gynec. 61:147-153, 1951.*

# Transverse Presentation of the Fetus

E. C. GARBER, JR., M.D., AND H. HUDNALL WARE, JR., M.D.*
*Medical College of Virginia, Richmond*

THE uncommon accident of crosswise fetal presentation involves great risk for mother and child.

The position should be recognized in routine antepartum care and corrected, if possible, by external cephalic version before onset of labor. When maladjustment persists, E. C. Garber, Jr., M.D., and H. Hudnall Ware, Jr., M.D., do cesarean section in more than half the cases.

Since 1933, transverse presentation has been seen at the Medical College of Virginia Hospitals in 65 of 27,249 deliveries, or 1 of 419; not counting twins and infants weighing less than 1,500 gm. Since these hospitals accept obstetric emergencies from a large surrounding territory, the percentage of abnormal and neglected cases is high.

Performance of cesarean section reduced infant deaths 25% in six years. Only 1 of 13 babies alive just before birth succumbed to the operation.

Internal podalic version with breech extraction, though formerly considered advisable by some physicians, failed to save the child in 29 of 33 cases, and Braxton Hicks version in 10 of 11.

A total of 6 mothers died before 1941, but none thereafter. Fatalities were probably due to preventable factors, including the wrong obstetric or anesthetic method and insufficient use of whole blood or antibiotics.

Transverse presentation may result from placental implantation in the uterine fundus or lower segment or from contracted pelvis and is more likely with premature labor or multiparity. Roentgenography should be done in every suspected case.

The abdomen should be palpated regularly during the last six weeks of pregnancy, and a malposition discovered in the last trimester examined frequently. As a rule, the fetus will shift spontaneously to vertex or breech presentation before labor begins.

If the transverse state persists until near term, either the fetus or the mother's pelvic bones or soft tissues may be abnormal. External cephalic version is done when possible during the last month of gestation. The procedure becomes more dangerous after rupture of membranes or commencement of labor.

Membranes should be left intact until the patient is ready for delivery, since premature rupture increases both maternal and fetal risk.

If the first examination reveals a completely dilated cervix, normal pelvis, intact membranes, and relaxed uterus, delivery is generally attempted by internal podalic version and breech extraction.

When the fetus is dead, a Braxton

* Transverse presentation of the fetus. Am. J. Obst. & Gynec. 61:62-70, 1951.

Hicks version may be done if the pelvis is ample, the cervix dilated 2 cm. or more, and the uterus relaxed.

Immediately after vaginal delivery, the womb should be examined carefully for rupture, a frequent result of improper management.

Cesarean section is particularly suitable when membranes rupture early and the cervix is long, firm, and undilated.

## Technic and Use of Culdocentesis

DAN W. BEACHAM, M.D., AND W. D. BEACHAM, M.D.*

ASPIRATION of Douglas' cul-de-sac is a useful method of detecting suppuration or hemoperitoneum, particularly in diagnosis of ectopic pregnancy.

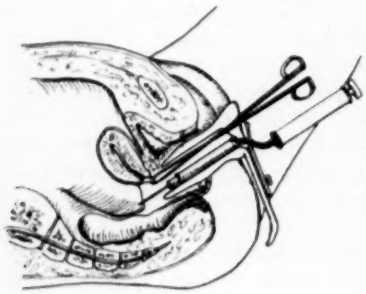
At the Charity Hospital of Louisiana, New Orleans, culdocentesis was performed more than 500 times in about three years.

Dan W. Beacham, M.D., and W. D. Beacham, M.D., commonly use local anesthesia for the procedure. If pelvic structures are tender, meperidine hydrochloride is injected intravenously for rapid analgesia.

A bivalve vaginal speculum, 18-gauge spinal needle, glass adapter with tubing, and aspirating syringe are employed. If desired, a 5- or 10-cc. syringe may be substituted for the larger size with adapter and tubing.

With the patient in lithotomy position, the speculum is inserted, the posterior lip of the cervix elevated with a tenaculum, the posterior fornix dried, and tincture of merthiolate applied.

The needle is thrust into the center of the cul-de-sac (see illustration) or into any obvious mass. The direction should parallel the body of the uterus as nearly as possible, and depth of insertion rarely exceeds 2 cm.



Suction is applied, and the needle is slowly withdrawn, a procedure taking not more than one minute. When no fluid is obtained the needle is reinserted once or twice.

If a sample of blood does not clot within six minutes, the source is a blood-filled cyst or hemoperitoneum rather than a vessel.

* Culdocentesis. New Orleans M. & S. J. 103:283-288, 1951.

# Papilledema Recession with Hypertension

NORMAN M. KEITH, M.D., AND HENRY P. WAGENER, M.D.*
*Mayo Clinic, Rochester, Minn.*

In the course of malignant hypertension, choked disk and associated retinal lesions may improve spontaneously.

Recession usually indicates a longer life, in the experience of Norman M. Keith, M.D., and Henry P. Wagener, M.D. The general status is about the same as after specific therapy, such as bilateral sympathectomy, removal of a kidney or adrenal pheochromocytoma, a rice diet, extreme salt restriction, or injection of bacterial pyrogens.

Papilledema subsided without special treatment in 15 cases involving 10 men and 5 women who were from 29 to 62 years of age when the edema was first seen.

The subsequent interval before death was two months to twelve years in 14 cases, and the mean period exceeded four years. When last heard from, the remaining patient was still alive and in business after nine years.

Therapy comprised sedatives, theophylline or other purine compounds, and avoidance of physical and mental strain. The usual diet contained 2,000 calories per day, 40 to 60 gm. of protein, and 2 gm. of sodium.

However, 1 person received several roentgen treatments over the pituitary region, and 3 were given potassium thiocyanate for three to six months. Possibly as a result, eyegrounds thereupon improved in all 4 cases.

Blood pressure was obviously labile in half the group, with pressures often falling to 150 systolic and 90 diastolic or less. However, hypertension persisted in all cases.

Papilledema was generally associated with diffuse retinopathy. Constriction of vessels was generally visible, sometimes extreme, and vision frequently deteriorated.

Edema often receded within six months from time of discovery and usually within a year. A few changes were missed owing to delayed examination. With 1 exception, choked disk did not recur before death.

As swelling diminished, diffuse retinal lesions vanished or decreased. General health improved, and often sight, but arteriosclerosis remained as before or became worse.

When edema of the nerve head persists, death may be expected within a year after onset in 80% of cases and within two years in 90%. On the whole, therefore, survival is distinctly lengthened when neuroretinopathy recedes.

Rapid decrease is a more hopeful sign than slow improvement. If retinopathy does not entirely disappear, length of life after onset of papilledema is two to sixty-eight

* Recession of neuroretinopathy during the course of malignant hypertension. Arch. Int. Med. 87:25-47, 1951.

months, but with full recovery, sixteen to one hundred forty-one months.

Some persons have remarkably good compensation for several years, yet several vital organs may fail together in a relatively short time. Since labile blood pressure is the rule, sudden rises may be responsible. Disorders of the retina, brain, heart, or kidney alone may predominate.

In a few cases, the nerve head swells while arterioles are constricted but without a generalized arteriosclerosis or retinopathy. Lesions of this kind must represent acute angiospasm or hypertension.

Edema and hemorrhage probably result from poor circulation in the optic nerve, retina, and choroid, rather than from high pressure of cerebrospinal fluid. The more completely blood flow is restored, the better the prognosis.

Focal constriction may be a cause or effect of retinal circulatory decompensation, although the latter seems more likely.

The cardiovascular system often has amazing powers of adjustment. In some unknown and complex manner, the strain of hypertension may be compensated.

The onset and regression of vascular lesions in the eye suggest that other organs react in the same way. Further study of hypertensive retinopathy may explain the adaptive changes that occur generally in the peripheral vessels and tissues.

¶ PSEUDOALBUMINURIA may result from priodax, an iodine preparation used for cholecystography. To avoid confusion, urine of patients with gallbladder disease should be examined before the standard dose of 6 tablets. As an alternative, requests for urine test within three days after radiography should mention the dose of priodax. E. E. Seedorf, M.D., and associates of the Scott and White Clinic, Temple, Tex., noted urinary cloudiness or precipitation in 36 of 100 cases, but without evidence of renal irritation. When acid samples were alkalinized or boiled, the material redissolved, unlike true albumin.

*Radiology 55:740-742, 1950.*

¶ INFECTIOUS MONONUCLEOSIS should be suspected if radiograms show involvement of hilar glands and a greatly enlarged spleen, states Julian Arendt, M.D., of the Chicago Medical School. Hypertrophic gastritis and swollen mediastinal and mesenteric glands are sometimes observed. The gallbladder may not be visible. Atypical cases are often referred to the radiologist under such diagnoses as virus pneumonia, pharyngeal edema, appendicitis, leukemia, lymphoblastoma, malaria, brucellosis, gastric ulcer, colitis, or cholecystitis.

*Am. J. Roentgenol. 64:950-958, 1950.*

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# *Medical Forum*

*Discussion of articles published in* MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

## Rapid Warming and Prolonged Massage for Frostbite*

*Comment invited from*
*J. M. Crismon, M.D.*
*Kurt Lange, M.D.*
*Jacob J. Silverman, M.D.*
*D. V. Holman, M.D.*

► TO THE EDITORS: Successful treatment of experimental frostbite and prevention of gangrene by means of rapid warming in water near body temperature were first reported from Russia in 1939 by Ariev. His claims were tested and confirmed in this country in 1945 (O.S.R.D. Final Report Contract oem CMR 476, and F. A. Fuhrman and J. M. Crismon, *J. Clin. Invest.* 26:476, 1947) and also more recently by other investigators.

It is of considerable interest that clinical trial by the Russians has convinced them that frostbite in man responds to rapid warming. The paper on frostbite by Col. Wayne G. Brandstadt, M.C., U.S.A., does not give the date of the Russian symposium which was reported by the Defense Research Board of the Canadian Defense Department. However, it may be presumed to be fairly recent opinion since recommendations are given "from the most recent Russian Manual of Field Surgery."


Col. Brandstadt's paper reveals that our Canadian neighbors had no better success than we in rendering the Russian language of cold injury precisely into English. Even our native Russian translator had difficulty in distinguishing among the various terms that were applied to cold injury.

The trouble arises from the Russians' use of the same word-root in connection with all pathologic states resulting from the effects of cold. Various prefixes are used to indicate the

*MODERN MEDICINE, Feb. 15, 1951, p. 74.

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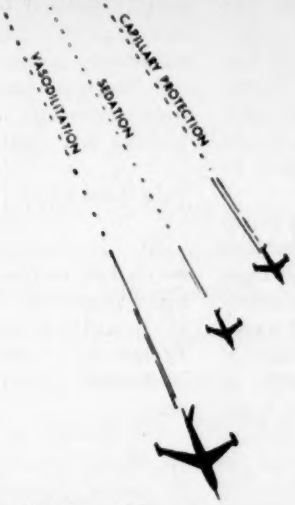


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## HYPERTENSION

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*degree of severity* of effects of cold but, in the absence of obvious clues from context, not even two Russians could agree on whether the writer might be referring to generalized hypothermia, trench foot, or actual frostbite.

The Russian symposium probably dealt with all forms of cold injury, although this is not pointed out by Col. Brandstadt. Both circulatory and respiratory failure occur commonly in hypothermia. The mention of prolonged vigorous massage and artificial respiration suggests that these measures might have been recommended for treatment of hypothermia, but it is difficult to associate them both with appropriate treatment of either trench foot or frostbite.

Local massage has long been recognized as a valuable prophylactic measure in foot care of troops especially in cold, wet environments. Artificial respiration and rapid warming by immersing the whole body in warm water were useful aids in treating severe experimental hypothermia in the human experiments carried out by the Germans at Dachau. It is appreciated that the same individual may suffer all three forms of cold injury, particularly after being wounded. However, it should be recognized that while trench foot and frostbite may require the same measures of treatment, hypothermia constitutes a separate problem.

The five items listed by Col. Brandstadt as fundamental to the point of view that effects of cold on the living organism are reversible have a familiar and homey look. I am sure that he did not intend to convey the impression that this is new information from Russia; most of it was thoroughly established and reported in this country by 1944, and the remainder by 1945 to 1947.

Rapid warming of frostbitten parts *is* an effective means of reducing the extent of gangrene. It should be emphasized, however, that this treatment is distinctly in the category of a first-aid measure. If the frozen part is allowed to thaw and blood flow returns before warming by immersion in water, the amount of tissue loss from gangrene is increased over that which might be expected without any treatment.

J. M. CRISMON, M.D.
Palo Alto, Calif.

► TO THE EDITORS: The question of rapid rewarming of frostbitten limbs as mentioned in Col. Wayne G. Brandstadt's report about the results of Russian investigators is not a new one.

In contrast to the methods used in World War II, we were able to prove experimentally—as far as we know for the first time—that prolonged cooling of previously exposed extremities *increases* the subsequent tissue damage.

Other investigators have since confirmed our results.

Green, who advocated the slow rewarming of frostbitten extremities by use of a cold box, has recently retracted his suggestions. Extended cooling prolongs the tissue anoxia and with it the capillary damage. This in turn leads to increased leak-

*Effective against many bacterial and rickettsial infections, as well as certain protozoal and large viral diseases.*

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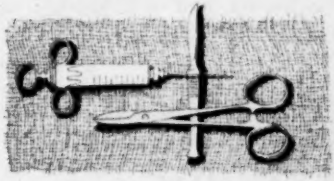

**The Surgeon** is no longer hampered in his work by the fear of uncontrollable postoperative infections, thanks in large measure to the sulfonamides and the antibiotics. Aureomycin is indicated for preparation of the gut before enteric surgery. The high concentrations attained by aureomycin in the bile make it of particular value in operations on the infected biliary tract. Its efficacy against streptococci and staphylococci, which are becoming increasingly resistant to penicillin, renders its use advisable in surgical conditions where these organisms are actual or potential invaders.

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age of plasma out of the vascular tree and thus to the stranding of red cells in the capillaries leading to agglutinative red cell masses. They are the cause of the subsequent gangrene. Immediate rewarming at room temperature should be the method of choice.

In each case of frostbite full blood flow through the frostbitten part is resumed for a certain length of time on rewarming and no massage or calcium chloride injections are needed for this purpose. Massage greatly increases the danger of skin infection, which is a dreaded complication of frostbite and burns. Frostbitten limbs should be swabbed immediately with colorless aqueous merthiolate or aqueous Zephiran solutions and loose sterile dressings should be applied. Pressure must be avoided under all circumstances. The use of 2% solutions of brilliant green is contraindicated since it covers up color changes in the frostbitten part which are the best guide for therapy.

Heparin treatment should be started immediately for any severe frostbite case and continued without interruption for 5 to 7 days.

KURT LANGE, M.D.
New York City

► TO THE EDITORS: Those of us who had the opportunity to study cold injuries in the soldiers of World War II quickly arrived at this conclusion:

The present-day management of frostbite is still far from being satisfactory. The hundreds of thousands of soldiers who were disabled, many of them permanently, amply testify to this fact. It is remarkable that an injury that was almost as disabling in its frequency as enemy bullets was so unfamiliar to the average medical officer.

The therapeutic pendulum has now swung through the entire gamut of heat principles. First cold is advised: now we learn that heat is more effective.

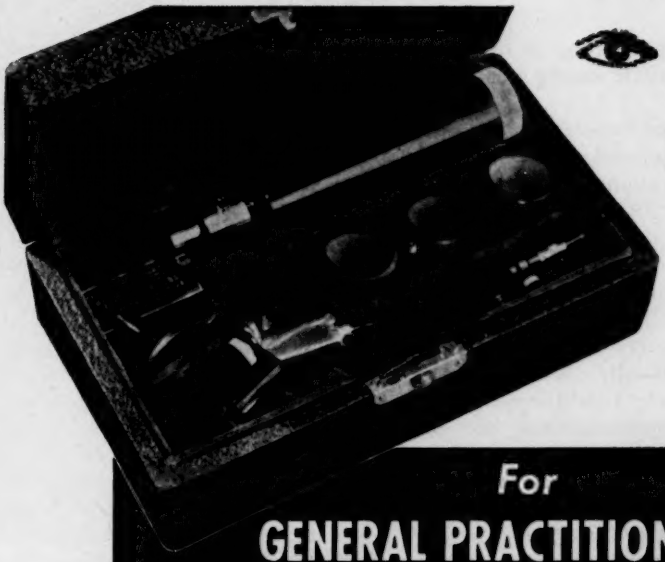
Actually the problem is complicated, and the application of heat or cold depends upon many factors.

In the early ischemic stage, the application of gentle heat is indicated, and when the entire body has been exposed to extreme cold, the rapid application of external heat may be lifesaving, a fact demonstrated by the Nazis in human experiments. At a later stage, however, the local application of heat to an extremity recovering from frostbite may be harmful. In the recovery stage the frozen extremity becomes hyperemic; a cool environment at this stage may be comforting and useful.

Strict aseptic principles, including the avoidance of trauma, should be practiced. Prolonged massage to a frozen anesthetic extremity, I believe, is dangerous and may cause irreversible damage.

JACOB J. SILVERMAN, M.D.
Staten Island, N.Y.

► TO THE EDITORS: Frostbite is a preventable disease, one which has an extraordinarily high selective incidence among American soldiers. After the shocking number of cases in the 1944-45 European campaign,



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it is most disheartening to see press reports of frostbite among our troops in Korea.

Evidently fundamental lessons continue to go unheeded.

Our observations in Europe led us to classify frostbite according to evidences of damage to the tissues of the feet (Delavan V. Holman and Pierce Mila Holman, *Am. Heart J.* 34:100-113, 1947). Very few patients had gangrene. Such gangrene as there was usually came at pressure points and under conditions to which any one of many intrinsic and extrinsic factors besides cold contributed. This was because the temperatures to which the men were exposed were never extreme.

Those who saw frostbite in aviators exposed at high altitudes, on the other hand, reported extensive gangrene, some produced by actual freezing of tissues (Loyal Davis, John E. Scarff, Neil Rogers, and Meredith Dickinson, *Surg., Gynec. & Obst.* 77:561, 1943).

Nongangrenous frostbite for the most part was evidenced by symptoms and signs suggesting severe neurovascular disorder, similar to the hypersensitive vasoconstrictor reactions commonly seen in peripheral vascular syndromes such as acrocyanosis and Raynaud's.

These phenomena are associated with recognizable pathology (N. B. Friedman *Am. J. Path.* 21:387, 1945, and I. D. Stein and T. J. Dry *Mod. Concepts Cardiovas. Dis.*, Vol. 15, no. 9, 1946). Apparently a vicious circle is initiated whereby cold and vasospasm reenforce one another to produce ever lower levels of oxygen tension within the tissues. Our observations led us to believe that prolonged exposure to relatively minor degrees of cold tended to produce the most refractory types of vasospasm later on. Conversely, in tissue areas contiguous to gangrene less vasospasm was noted.

Successful early treatment of frostbite is, therefore, extremely important. It should be geared to the degree of damage in the individual case and requires considerably more experience and perception than are likely to be present under combat conditions when such treatment is the most useful.

If tissue death is inevitable, the treatment should be very different than for nongangrenous cases. Tissue dissolution produces sterile inflammation with exudates which crowd the extracellular spaces, further hamper circulation, and extend cellular damage. The most minute trauma may effect entry of bacteria which add to the havoc. In such cases, hyperemia is undesirable and it is important to reduce the swelling by means of elevation and local cooling.

In first- and second-degree frostbite, the sooner the tissues have their normal oxygen supply restored, the better. The methods of producing reactive hyperemia attributed to the Russians seem more practical for civilian than military use. The emphasis on care of the local tissues is well taken. Too often, massage and local heat, unskillfully and too vigorously applied, lead to further damage, including gangrene, which might otherwise be avoided.

D. V. HOLMAN, M.D.
New York City

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REFERENCES 1. Gray, L. A.: South. M. J. 34: 1004 (1941). 2. Frank, R. T.: Arch. Neurol. & Psychiat. 26: 1053 (1931). 3. Greenhill, J. P., and Freed, S. C.: J. A. M. A. 117: 504 (1941).

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## Treatment of Minimal Tuberculosis*

*Comment invited from*
*Henry C. Sweany, M.D.*

► TO THE EDITORS: The following is a discussion of modified rest in treatment of minimal tuberculosis, as presented by Drs. Roger S. Mitchell and Jack R. Knudson.

It has taken the medical profession nearly a century to prove that complete rest of a demonstrable active tuberculous lesion is the best, safest, and surest accessory principle to insure recovery. Next to vital food, air, and water, rest was the only treatment before the development of surgical resection and chemotherapy. Furthermore, rest treatment is never to be left out of any management plan of the tuberculous patient.

So well has the active rest principle been established that modified rest treatments are only justifiable in emergencies or in unavoidable situations. There must be a clear understanding, however, of what is meant by "modified." Modified rest or its equivalent, increase in exercise, is always applied to patients who are recovering from the disease. There is a progressive relaxation of rest in proportion as the symptoms of activity recede. This principle permits no exception unless conditions demand. Modified rest in the free sense, however, allows the patient to proceed faster in his exercise than good practice warrants.

Modified rest under certain circumstances will result in arrest and even cure. Owing to the protean nature of tuberculosis, there are many grades of severity in lesions of similar appearance. Some are altered by the nature and number of bacilli present; others by the resistance and condition of the host; others by accidental factors; and still others by more of these variables. For these reasons, some lesions are inherently easier to heal than others.

It is not possible to foretell in the majority of cases which lesions will heal easily. Furthermore, nobody knows when a tubercle will rupture into a pulmonary vein or into the ventricles of the brain or when foci will develop in other organs of the body to cause systemic or other serious involvement. Finally, the privilege to indulge in certain activities increases tremendously most of the possibilities mentioned above. The people who survived before rest treatment was fully adopted did so because of a fortuitous escape from one of the numerous "accidents" that resulted in spread of the disease, or they had a favorable environment.

Even under unfavorable conditions, some tuberculous patients will recover. In Brauening's survey of the city of Stettin, about one-third of all relatively serious tuberculous infections healed spontaneously while the patient was carrying on his usual duties, without the patient ever knowing that the disease was present.

Less extensive lesions tend to heal still more readily. About 40% of the people in our country have been infected, but only about 1% show significant lesions at any one time. Lesions in the other 39%, or about 97% of all infections, heal spontaneously. Most of these are subminimal or infinitesimally small.

*MODERN MEDICINE, Nov. 1, 1950, p. 59.

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1. Urbach, C.; Mack, P. B., and Stokes, J., Jr.: Pediatrics 1:70 (Jan.) 1948.

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Of course, many of these are primary infections, but we must not build a Maginot Line about primary infections being benign. In the first few weeks such infections usually produce few symptoms, but later many things can happen to them. It has definitely happened in many of the significant 1%, of which about one-third are lesions undergoing active evolution, most producing recognizable symptoms. The other two-thirds are lesions that [1] have passed their peak and are undergoing encapsulation, [2] are in a very resistant host, [3] are produced by a less virulent strain of bacilli, or [4] have not been jarred loose.

Most small lesions, and many severe ones, heal spontaneously. It is logical that more healing will take place with extra rest, light duties, and good food and environment. Still more healing will occur as a result of a few weeks bed rest at home or in a hospital. These various degrees of modified treatment, of course, are better than nothing, but they are not to be selected because some patients happen to recover.

The danger is in assuming that because a great number of cases heal with such modified regimes, all cases should be handled by makeshifts or short cuts. Worse still, when poorly trained men encounter such recoveries, they manhandle all their cases by such methods, sometimes using a little collapse therapy or drug while the patient goes about his daily duties. They are inclined to take credit for what nature has chiefly accomplished.

Skilled men can use modified plans with some success. Modified regimes may be used, not because they are best, but because they are all that are available. They are at best, however, salvage operations. Basically, there is only one rest treatment of tuberculosis—absolute rest of active disease and relaxation of rest as the symptoms disappear.

A safe guide may be as follows: Does the patient have tuberculosis; are there bacilli in the sputum; and does the roentgenogram reveal a soft, cloudy, foggy, unstable type of lesion? Clinical symptoms do not always matter, nor is the size of the lesion of much importance. We may be sure, however, that there are symptoms with any active disease process, even though our methods may not detect them.

With this situation before the physician, there is only one course to pursue. Put the patient to bed in a hospital on absolute rest, then move into the various grades of exercise as the clinical symptoms recede, as the sputum and bacilli disappear, and as the roentgenogram tends to show an encapsulated, hardened, or fibroid lesion. The time may be weeks, months, or years, varied by use of chemotherapy and surgery.

The treatment is guided by properly interpreted roentgen and laboratory findings, seasoned with wisdom and sound judgment. Modified treatment of minimal lesions can very well be the proper treatment.

It must be admitted that many cases have been overtreated in the past, but it is better to err on the side of overtreatment than undertreatment.

HENRY C. SWEANY, M.D.
Jacksonville, Fla.

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# *Diagnostix*

*Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.*

## Case MM-190

### THE CLUE

ATTENDING M.D: The first patient for you to see entered the hospital this morning. The problem is urgent. She is a 65-year-old woman who suddenly had severe pain in the right lower quadrant yesterday morning. The pain moved slowly to the epigastrium and then became generalized throughout the abdomen. She has been vomiting since last night.

VISITING M.D: Sounds like acute intestinal obstruction. Has she had any abdominal surgery in the past?

ATTENDING M.D: A cholecystectomy two years ago. Her physician suggested carcinoma of the colon yesterday when he noted a tender mass in the right lower quadrant.

### PART II

VISITING M.D: I suppose she had abdominal symptoms two years ago when the gallbladder was removed?

ATTENDING M.D: Yes. For several years she had had periodic abdominal distention and vomiting, usually subsiding after a day. She first called a physician two years ago. Cholecystograms revealed a nonfunctioning gallbladder.

VISITING M.D: Do we know what was found at surgery?

ATTENDING M.D: Yes. The gallbladder was small with thickened walls and contained several stones. After surgery the patient felt well for several months but then had attacks of bloating and vomiting as before. The present attack is similar to the others but more severe.

VISITING M.D: You mentioned something about a mass. What did your physical examination reveal?

ATTENDING M.D: The patient is a stout, well-developed female complaining of abdominal pain and vomiting frequently. She is dehydrated. Temperature, pulse, and respirations are normal. The lungs are clear, the heart is normal by percussion and auscultation. Her abdomen is pendulous and generally tender, particularly the right lower quadrant. The liver and spleen are not enlarged. A tender oval mass is palpable in the right lower quadrant, about 5 by 7 cm. in size, and some 3 in. above the inguinal ligament. The bowel sounds are high pitched and numerous. Rectal and pelvic examinations are negative but for tenderness, especially on the right.

VISITING M.D: *(Examining the patient)* The abdomen is diffusely tender as you described, especially over the mass. I get the impression that the mass is quite superficial.

as though it were within the abdominal wall, actually more of a swelling. See what you think.

ATTENDING M.D: I agree, though I hadn't noticed that before.

**PART III**

VISITING M.D: Do we have any laboratory reports or roentgenograms?

ATTENDING M.D: Some. The hemoglobin is 16 gm. The leukocyte count is 10,400 with 68% neutrophils, 26% lymphocytes, 4 monocytes, and 2 eosinophils. Urine is normal and contains no porphobilinogen. Here is a film of the abdomen.

VISITING M.D: There are several distended loops of small bowel. That fits the diagnosis of intestinal obstruction. I think we can make a diagnosis. What's your impression?

ATTENDING M.D: I put intestinal obstruction first, but I'm not sure what causes it. I considered carcinoma of the cecum, adhesions, intussusception of the small bowel, and appendicitis until I saw the flat plate of the abdomen.

VISITING M.D: It's rare for carcinoma of the cecum to cause intestinal obstructions, as you know. As for adhesions, that's always a possibility although I'm afraid it's a diagnosis too often entertained preoperatively in cases of bowel obstruction. Intussusception in this age group almost demands the diagnosis of small bowel tumor or Meckel's diverticulum. Although the latter is not rare, small bowel tumors are certainly uncommon. Acute appendicitis in an older person is often a surprise finding at surgery since leukocytosis and local signs may not be significant. However, the recurrent attacks over several years and the roentgen evidence of an acute intestinal obstruction make appendicitis very unlikely.

ATTENDING M.D: Where are we?

**PART IV**

VISITING M.D: Have you considered a strangulated hernia?

ATTENDING M.D: The picture would fit a diagnosis of strangulated femoral or inguinal hernia only if the swelling were near the inguinal ligament.

VISITING M.D: But abdominal hernias do occur in other locations. I think we're dealing with a strangulated spigelian hernia. This hernia occurs along the semilunar line of the rectus muscle, usually at the level of the arcuate ligament. The hernial sac penetrates the fascial band by which the internal oblique and transversalis muscles insert into the rectus sheath but lies beneath the aponeurosis of the external oblique muscle. This patient's abdominal wall is lax enough to permit easy palpation of the strangulated hernia. In more muscular individuals the hernial sac may be concealed by the external oblique. Diagnosis is really difficult then.

ATTENDING M.D: It's tough if you have forgotten your anatomy, too.

ATTENDING M.D: *(After surgery)* A spigelian hernia was found. It contained omentum and strangulated loops of small bowel which were still viable. The hernia was repaired and the patient is doing nicely.

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# *Basic Science Briefs*

*Pharmacology*

## Effects of Adrenal Hormones on Brain Excitability

Resistance of the brain to electric shock convulsions is increased by desoxycorticosterone acetate but lowered by ACTH or cortisone. Drs. Dixon M. Woodbury and George Sayers of the University of Utah, Salt Lake City, determined sensitivity of rats after implantation of 180 mg. of DCA and daily subcutaneous injection of other hormones for several weeks. ACTH alone in doses of 3 mg. slightly depressed, then raised the shock threshold. From 0.001 to 10 mg. entirely counteracted DCA. Cortisone alone in amounts of 2 mg. heightened susceptibility to convulsions, the same dose neutralized DCA throughout the course, and injections of 0.1 mg. were effective for twenty-two days.

Proc. Soc. Exper. Biol. & Med. 75:398-405, 1950.

*Physiology*

## Adaptation to Vascular Stress

Excess salt ingestion by dogs causes a temporary increase in systolic blood pressure as well as large fluctuations in daily pressure recordings. However, despite continued administration of excess salt, Drs. E. B. Waldmann and C. M. Wilhelm, of Creighton University, Omaha, found that the blood pressure of two dogs returned to normal levels, though the systolic pressure of a third dog remained elevated. While still on a high-salt diet, the addition of a second stress, a slowly revolving cage, again caused elevation of the animals'. blood pressures. However, as before, with continued exposure to the second stress, adaptation occurred with a return of pressures to previous levels. Sudden withdrawal of excess salt was followed by significant decrease in blood pressure lasting three weeks. The post-stress hypotension is possibly related to pituitary and adrenal cortical function.

*Nutrition*

## Enzyme Adsorption by Sulfonamides

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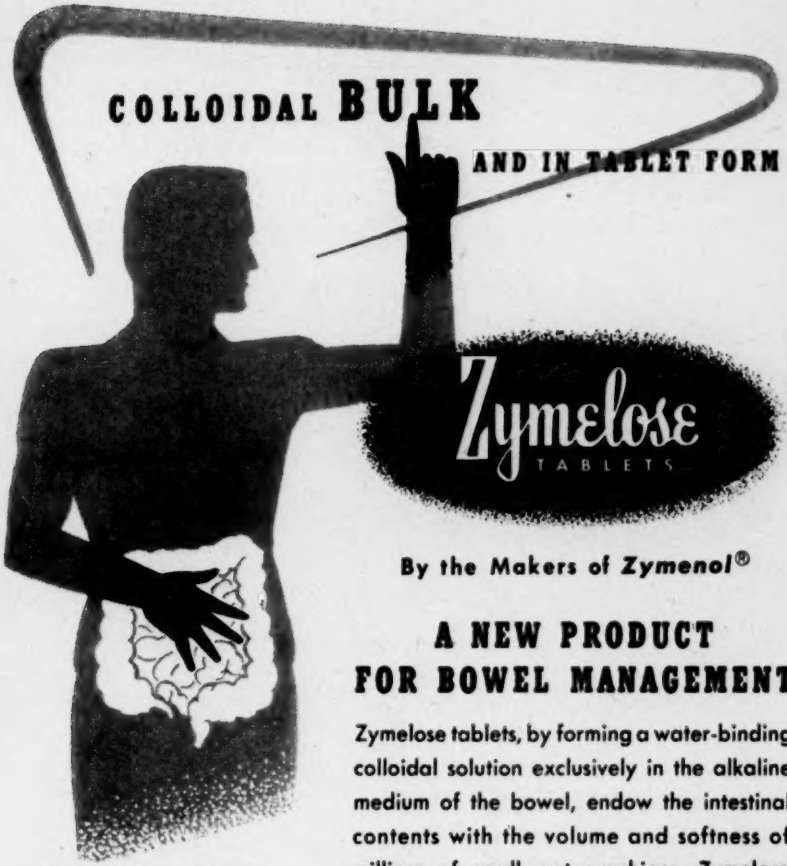
J. Pharm. & Exper. Therap. 101:230-236, 1951.

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## *CHLORAL HYDRATE CAPSULES-FELLOWS*

*for the patient*

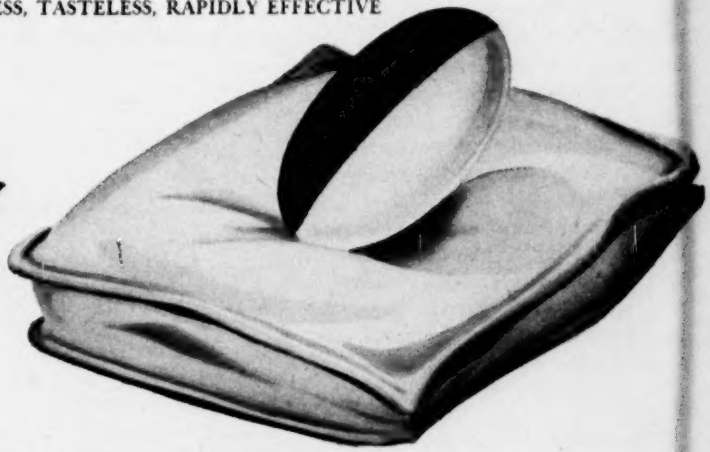
*who needs daytime sedation and relaxation*

*Chloral Hydrate Capsules-Fellows (3¾ gr.) 0.25 Gm.*

*gives complete comfort without*

*physiological depression.*

ODORLESS, TASTELESS, RAPIDLY EFFECTIVE



DOSAGE: Daytime Sedation: One (1) capsule three (3) times a day after meals.

Physiological Sleep is produced when two (2) to four (4) capsules are administered at bedtime.

"PHYSIOLOGICAL" SLEEP: Usually lasting from five to eight hours. Pulse and respiration are slowed in the same manner as in normal sleep. Reflexes are not abolished and the patient can be readily aroused.

EXCRETION: Rapid and complete therefore no depressant after-effects.

AVAILABLE: Prescription size bottles — 24's.

PROFESSIONAL SAMPLES AND LITERATURE ON REQUEST.

Fellows MEDICAL MFG. CO., INC.

*pharmaceuticals since 1866*

*26 Christopher Street, New York 14, N. Y.*

Rehfuss, M.R. et al: A Course in Practical Therapeutics (1948)
Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics (1941)
Sollman, T.A.: A Manual of Pharmacology, 7th Ed. (1948) Useful Drugs, 14th Ed. (1947)

# *Short Reports*

*Pathology*

## Effect of Cortisone or ACTH on Tuberculin Skin Reactions

ACTH or cortisone modifies but does not prevent the tuberculin skin reaction. The compounds apparently do not affect the immune mechanism of the delayed type of antigen-antibody response, although induration and inflammation are decreased. Guinea pigs with active tuberculosis were given hormone for six days by Dr. Walter H. Sheldon and associates of Emory University and the Grady Memorial Hospital, Atlanta, and Lawson Veterans Administration Hospital, Chamblee, Ga. Tuberculin tests on the fourth day elicited a definite reaction, but effects in an untreated group were more pronounced.

Proc. Soc. Exper. Biol. & Med. 75:616-618, 1950.

*Public Health*

## Tuberculosis Surveys

The value of mass photofluorography in controlling tuberculosis is shown by mortality rates in Brazil, where the first centers for mass surveys were established by Dr. Manoel de Abreu of the University of Rio de Janeiro. Among adults in Rio, deaths were reduced from 342 to 242 per 100,000 persons in the period 1945-49, inclusive. During this time, tuberculosis mortality rose for children under 5 years of age, who were examined infrequently.

Dis. of Chest 19:249-254, 1951.

*Vital Statistics*

## U.S. Birth Rate

The highest five-year birth rate in the nation's history was from 1946 to 1950, when 18,500,000 babies were born. The National Office of Vital Statistics also announces that infant mortality has fallen 38% since 1940 and 6% since 1949. A new low death rate, 29.2 in 1,000 live births, was reached in 1950.

*Oncology*

## Gastric Cancer Survival

The highest published survival rate after surgery of stomach cancer is recorded for the University of Minnesota Hospitals. Of 207 persons operated on from 1943 to 1945, inclusive, 13.5% lived five years. Figures for the whole staff are cited by Dr. Edward E. Mason and associates. The rate for all cases between 1940 and 1945 was 12.2%. From 1936, the greatest improvement occurred with use of antibiotics and adequate blood transfusion. Further benefit is expected from recent innovations, such as removal of the spleen, splenic pedicle, and omentum in every instance. Midline upper abdominal incisions with sternal splitting allow more complete lymph node excision about the cardia, porta hepatis, and pancreatic head. In some cases the distal pancreas is resected.

Bull. Univ. Minnesota Hosp. 22:344-351, 1951.

*Physical Medicine*

## Ultrasonic Therapy

High frequency sound vibrations are freely employed for sciatica, lumbago, and other nerve disorders, but dosage is not well understood. Energy in large doses from a standard ultrasonic generator applied over the lower vertebrae permanently paralyzes the hind legs and tails of dogs and rats. Small doses and a moving applicator or pulsed energy are advised by Dr. Thomas P. Anderson and associates of the Mayo Clinic, Rochester, Minn. The spinal cord is most easily damaged, but 3 to 5.8 watts per square centimeter at midthigh generally blocks or decreases the action potential of the sciatic nerve. Judging from the pattern of myelin degeneration, ultrasonic effects are only partly due to heat.

Arch. Phys. Med. 32:71-83, 1951.

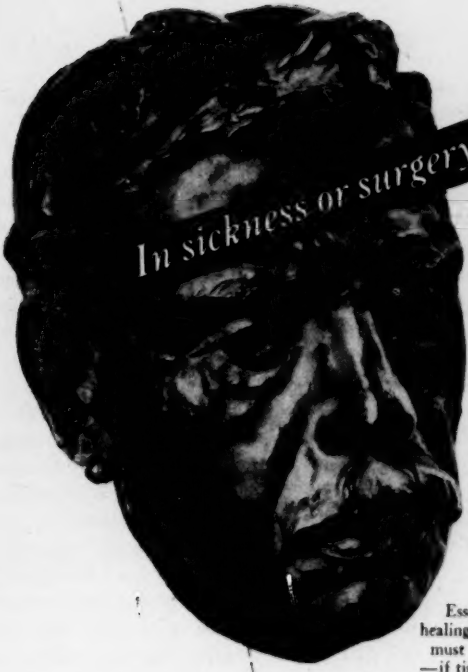
*"Stick out your tongue, David, like you do at the photographers."*

*Cardiology*

## Surgery for Mitral Insufficiency

Serious mitral regurgitation may be controlled by a pedicled tubular graft of pericardial tissue suspended near the incompetent valve. An operation devised by Dr. Charles P. Bailey and associates at the Hahnemann Medical College and Hospital, Philadelphia, diminished backflow 75 to 100% in 6 of 7 cases. In 2 instances of insufficiency with stenosis, commissurotomy was also done. Surgery is guided by the right forefinger inserted through a slit and by a tight purse-string suture in the left auricle. A long flap 1½ to 2¼ in. wide is stripped from the pericardium, leaving most of the nerve and blood supply at the cardiac base, and sutured longitudinally to expose the inner surface. A surgical probe with an eye at one end is bent into a hook at the other and threaded with heavy suture. Both ends of the suture are fastened to the tip of the graft. A small incision is made in the left ventricle near the anterolateral commissure of the mitral valve. The threaded probe is then forced through the ventricular wall, guided to the posterior commissure, and rotated to emerge slightly lateral to the posterior aspect of the left ventricle. The tubular graft is drawn across the heart chamber near the valve orifice, through the network of cordae tendinae at each extremity. Leaving enough slack for valvular action, the graft tip is sutured to the epicardium. A tube of suitable size, properly placed, will tamponade the defect completely.

Dis. of Chest 19:125-137, 1951.



*In sickness or surgery, play safer with . . .*

# "Saturation Dosage"

## *of* vitamins b *and* c

Depletion of the critical water-soluble B complex and C vitamins occurs so commonly in the presence of physical pathology, as to make a presumption of nutritive impairment[2] almost axiomatic. Essential to normal cell metabolism and wound healing, these poorly-stored, readily-diffusible factors must be replenished — usually by *massive dosage* — if tissue rehabilitation[3] and return to health[4] are to be expedited. • Allbee with C 'Robins' provides this all-important "saturation dosage" in convenient capsule form. It incorporates the important B factors in 2 to 15 times daily requirements, plus 250 mg. of vitamin C — *the highest strength of ascorbic acid available today in a multi-vitamin capsule.* • Its prescription represents a sound contribution toward decisive recovery from disease, or toward pre- and post-operative nutritional support.[1]

**A. H. ROBINS CO., INC. · RICHMOND 20, VA.**

*Ethical Pharmaceuticals of Merit since 1878*

**FORMULA:** *Each Allbee with C capsule contains:*

| | |
|---|---|
| Thiamine hydrochloride ($B_1$) | 15 mg. |
| Riboflavin ($B_2$) | 10 mg. |
| Nicotinamide | 50 mg. |
| Calcium pantothenate | 10 mg. |
| Ascorbic acid (C) | 250 mg. |

**REFERENCES:** 1. Coller, F. A. and DeWeese, M. S.: Preoperative and Postoperative Care. J.A.M.A., 141:641, 1949. 2. Jolliffe, N. and Smith, J. J.: Med. Clin. North America, 27:507, 1943. 3. Kruse, H. D.: Proc. Conf. Convalescent Care. New York Acad. Med., 1940. 4. Spies, T. D.: Med. Clin. North America, 27:273, 1943.

**allbee® WITH C**

Robins

*Epidemiology*

## Typhoid Fever Therapy

Manifestations of typhoid fever subside more promptly if the course of chloramphenicol is combined with cortisone. When 300 mg. of the hormone is given the first day, then smaller amounts, the febrile period is reduced from about four days to a little more than fifteen hours. Dr. Joseph E. Smadel and associates of the Army Medical Department Research and Graduate School and the Armed Forces Epidemiological Board, Washington, D.C., believe that 300 mg. of cortisone on the first day is probably sufficient. About 50 mg. per kilogram of chloramphenicol is given initially and for four days, then 25 mg. for ten or eleven more days.

Ann. Int. Med. 34:1-9, 1951.

*Vital Statistics*

## Childhood Mortality

Cancer ranks second, after accidents, as a cause of children's deaths. Diseases that were once fatal are today so nearly suppressed that most pediatric hospital beds will soon be empty, conclude Dr. Wilburt C. Davidson and Mildred M. Sherwood, R.N., of Duke University, Durham, N.C. In the future, children with heart disease, rheumatic fever, bone ailments, and malformations will probably be cared for in private offices and out-patient clinics instead of in hospitals. Congenital syphilis, tuberculosis, rickets, diphtheria, fatal whooping cough, tetanus, pellagra, pneumonia, and meningitis are vanishing.

*Biochemistry*

## Lymphoid Substances Favor Cell Overgrowth

The blood of persons with leukemia and other lymphomatoid diseases contains material that favors overgrowth of specific cells. Drs. Charles G. Foster and F. R. Miller of Jefferson Medical College and Hospital, Philadelphia, believe that the factors are humoral hormones, probably conjugates of myelokentric and lymphokentric acid. Sera from patients with chronic myeloid leukemia reduce lymphoid structure of guinea pig nodes, as does cortisone or ACTH, but increase fibrosis, connective tissue, and polymorphonuclear neutrophils. A substance related to chronic lymphoid leukemia, monocytic leukemia, or Hodgkin's disease induces lymphoid and eosinophil growth, and with the last two diseases, fibrosis appears. Similar changes are produced by myelokentric and lymphokentric acid in urinary extracts.

Proc. Soc. Exper. Biol. & Med. 75:633-636, 1950.

*Publications*

## Journal of Antibiotics

The first issue of a monthly journal, *Antibiotics and Chemotherapy,* has just been published by the Washington Institute of Medicine, at Washington, D.C. Editor-in-chief is Dr. Henry Welch. Dr. Felix Marti Ibanez edits a Spanish edition of the publication. The editorial board includes 5 Nobel Prize winners: Drs. Alexander Fleming, Howard F. Florey, E. Chain, Bernardo Houssay, and E. C. Kendall.

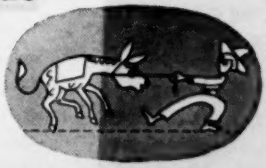
*even in stubborn*

*slow healing* **wounds**

**burns**

**ulcers**

(decubitus, varicose, diabetic)




## accelerates healing

New clinical studies[1] again prove the ability of Desitin Ointment to ease pain, inhibit infection, stimulate healthy granulation, and accelerate smooth epithelization in lacerated, denuded, ulcerated surface tissues . . . often in conditions resistant to other therapy.

***protective, soothing, healing*** **Desitin Ointment** is a self-sterilizing blend of high grade, crude Norwegian cod liver oil (with its unsaturated fatty acids and high potency vitamins A and D in proper ratio for maximum efficacy), zinc oxide, talcum, petrolatum, and lanolin. Does not liquefy at body temperature and is not decomposed or washed away by secretions, exudate, urine or excrements. Dressings easily applied and painlessly removed. Tubes of 1 oz., 2 oz., 4 oz., and 1 lb. jars.

*write for samples and reprint*

Desitin CHEMICAL COMPANY
70 Ship Street, Providence 2, R. I.

1. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surg. 18:512, 1949.

*Urology*

## Urinary Stone Solvent

Oxalate, urate, phosphate, and carbonate calculi in the urinary tract may be dissolved or softened to friable state by calsol. The new reagent, the sodium salt of ethylenediaminetetraacetic acid, binds calcium in a water-soluble form. Drs. Robert F. Gehres and Samuel Raymond of Columbia University, New York City, apply the chemical by tidal drainage of the bladder or by irrigation. More stones are eliminated than by acid citrate G solution, and treatment is tolerated well.

J. Urol. 65:474-483, 1951.

*Grants*

## Markle Awards

A total of $600,000 has been granted to 20 doctors by the Markle Foundations for research in medical science. Each award provides $6,000 yearly for five years.

*"I'm Mrs. Hinkle's sister. Remember, triplets? She says you do wonders with wives who are childless."*

*Military Medicine*

## Rapid Roentgen Photography

Care of the wounded may be revolutionized by a new roentgen method developed for military service. Pictures are turned out in a minute instead of the usual half hour, and no darkroom is required. The principle is the same as that employed by a camera which produces a print shortly after the film is exposed.

*Pharmacology*

## Antihistamine Compounds

Some of the new histamine antagonists are more potent than drugs in current use. Anthallan, chloroprophenpyridamine, Antergan, 194-A, and 194-C and are particularly effective, announce Drs. Thomas J. Haley and Margaret R. Andem of the University of California, Los Angeles. Compounds were evaluated for ability to close the precapillary sphincters and modify blood flow in the mammalian capillary bed. Reactions of the mesoappendix to local applications of different agents were compared with effects of epinephrine.

J. Pharm. & Exper. Therap. 100:393-397, 1950.

*Transfusions*

## Research on Shock

Effects of sodium salt solution on shock resulting from hemorrhage and burns will be investigated by Drs. Charles L. Fox, Jr., of Columbia University and James M. Winfield of New York Medical College. The National Health Institutes of the U.S. Public Health Service have granted $31,752 for the project.

*Topical therapy... effective and safe for continued use*

- because Terramycin is well tolerated
- because bacterial resistance is not produced
- because the medication may be stored at room temperature for 12 months without significant loss of potency

CRYSTALLINE

# Terramycin

HYDROCHLORIDE

## OINTMENT

*for topical use only*

An ointment of Crystalline Terramycin Hydrochloride in a petrolatum base. Each Gm. of ointment provides 30 mg. of Terramycin.

***indicated for:*** superficial pyogenic infections
pyoderma
pustular dermatitis
minor wound infections
infections associated with minor burns
prophylaxis

***particularly valuable in mixed infections***

In severe local infections which may become systemic, the ointment should be used as an adjunct to oral therapy with Crystalline Terramycin Hydrochloride Capsules.

***supplied:*** Tubes containing 1 oz. (28.4 Gm.)

*Antibiotic Division* **Pfizer** CHAS. PFIZER & CO., INC.
*Brooklyn 6, New York*

*Physiology*

## Pain Threshold with Cancer

The thresholds of pain and of skin flare are higher in persons with malignant disease than in other individuals. Drs. F. B. Benjamin and A. C. Ivy of the University of Illinois, Chicago, investigated the relationship in 1,913 patients, half of whom had neoplastic diseases and half of whom were well or had other types of chronic disease. An electrically heated wire was applied to the inside of the forearm. A definite consistent relationship between the threshold of pain and that of skin flare was obtained only in those trained to perceive the first appearance of pain sensation. The threshold of skin flare, however, was definite and consistent, and except for patients with brain tumors and Hodgkin's disease, was significantly higher for patients with neoplasms. No apparent difference was observed between patients with benign tumors and healthy persons. Administration of steroid sex hormones to patients with cancer of the breast or prostate caused the threshold of flare to fall for a prolonged period. The threshold was lowered transiently by x-ray therapy.

Am. J. Physiol. 163:697, 1950.

*Education*

## Course in Cerebral Palsy

A short course in cerebral palsy will be offered at Cook County Graduate School of Medicine, July 9 to 21. Dr. M. A. Perlstein and associates are instructors. Details may be obtained from the school, 427 South Honore St., Chicago 12.

*Ophthalmology*

## Cortisone for Eye Inflammation

Anaphylactic and inflammatory reaction of the eye can be prevented by either ACTH or cortisone, probably through direct action on mesenchymal tissue, report Drs. Alan C. Woods and Ronald M. Wood of Johns Hopkins University, Baltimore. Provocative doses were administered to rabbits sensitized by tuberculous infection or ocular injection of horse serum or killed beta streptococci. Simultaneous local or parenteral hormone therapy blocked the ophthalmic response, but only temporarily. Inflammation from irritants injected into the anterior chamber was also prevented. Self-limiting diseases, such as nongranulomatous iritis, allergic keratitis, and sympathetic ophthalmia, and some of the granulomatous conditions appear most suitable for treatment.

Bull. Johns Hopkins Hosp. 87:482-504, 1950.

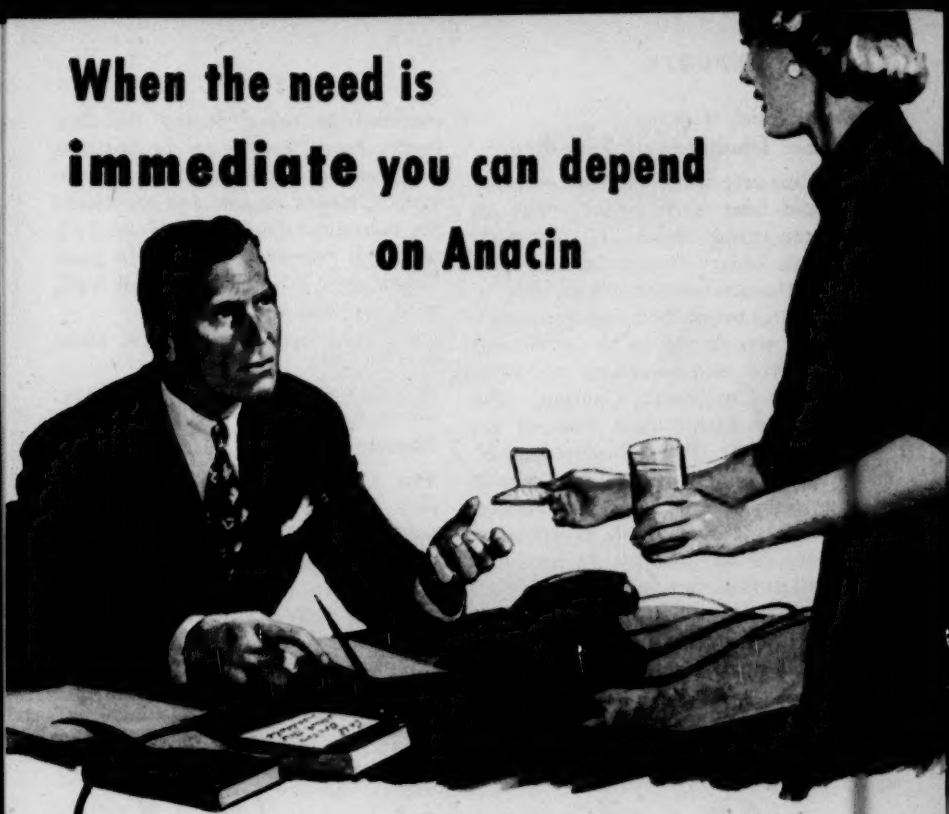
*Virology*

## Influenza Virus Inhibited

Alpha-tocopherol esters interfere with the enzymatic activity of the PR 8 strain of influenza virus, reports Dr. Robert Hanan of the National Institutes of Health, Bethesda, Md. The esters prevent the virus from altering ovomucin in vitro and protect chick embryos from infection by small viral inoculations. Effective compounds were the disodium salts of dl-alpha tocopherol phosphate, d-alpha-tocopherol phosphate, and, to a lesser degree, d-alpha-tocopherol succinate.

Proc. Soc. Exper. Biol. & Med. 75:440-444, 1950.

# When the need is immediate you can depend on Anacin




Often it is necessary to recommend treatment for pain relief before a thorough diagnosis can be made. In these cases, as in the routine treatment of headache, neuritis and neuralgia pain, you can depend on Anacin. These tablets afford all the advantages of quick, long lasting analgesia characteristic of the time tried and proved APC formula. Anacin is well tolerated too, preferred by many who experience gastric upset from other analgesics. For your patient's convenience, Anacin is available at all pharmacies. If you would like to receive samples of Anacin, please send us your request on your letterhead.

ANACIN®

WHITEHALL PHARMACAL COMPANY • 22 East 40th Street, New York 16, N. Y.

*Experimental Medicine*

## Tracer Diagnosis of Jaundice

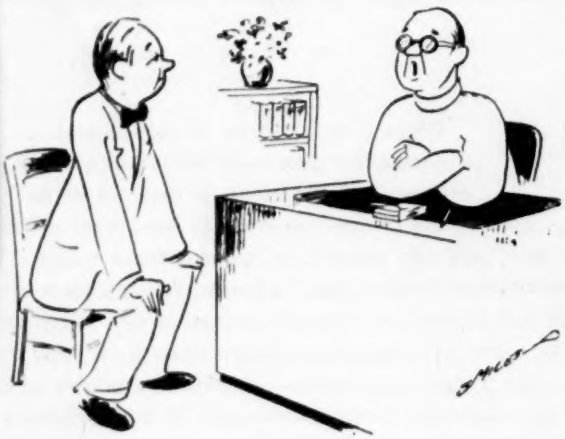
A radioactive tracer in a dye excreted by the liver may assist greatly in differentiating types of jaundice. Various biliary lesions in dogs produce characteristic levels of dye in blood and urine. Tetraiodophenolphthalein was employed by Dr. Walter W. Carroll and associates at Northwestern University, Chicago, who found an intravenous dose of 0.5 gm. adequate. Dye is removed rapidly from blood of healthy animals but with common duct obstruction values remain elevated. When acute hepatocellular necrosis is produced by chloroform poisoning, blood levels are extremely high fifteen minutes after injection. With normal biliary tract, a small fraction of the dye is excreted in urine during the first twelve hours, and larger proportions with necrotic lesions and duct occlusion. Changes in the first six hours are even more distinctive. About 61% of dye is recovered in feces in good health, 33% with necrosis, and 6.4% with common duct blockade.

Quart. Bull. Northwestern Univ. M. School 25:13-18, 1951.

*Grants*

## Atomic Projects Total 212

The U.S. Atomic Energy Commission has granted 14 new contracts for research in biology and medicine and renewed 5 others. Unclassified projects now supported by the AEC in colleges, universities, hospitals, and private laboratories now total 212.



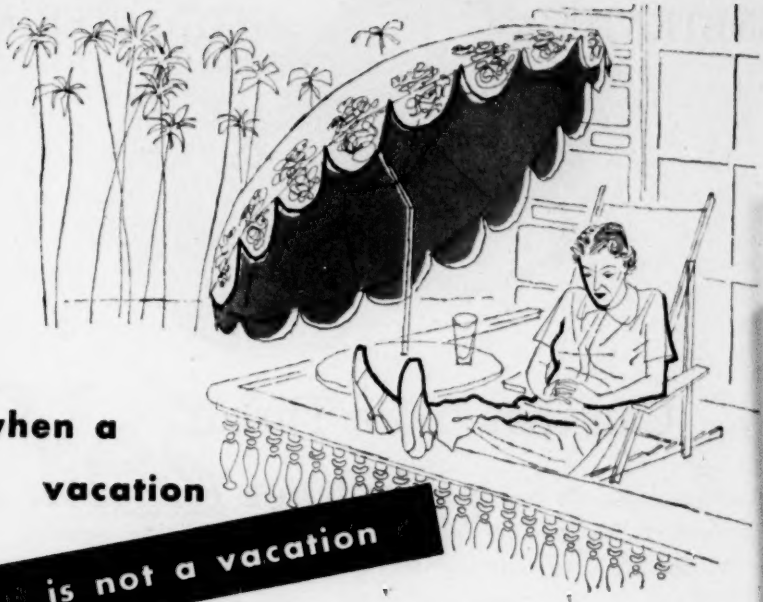
*"Before you started to live the life of Riley, you should have thought of what would happen when Riley came home."*

## *Life's Weary Moments*

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The May 1 winner is

*M. E. Bryant, M.D.*
*Colfax, Wash.*

Mail your caption to The Cartoon Editor Caption Contest No. 1 MODERN MEDICINE 84 South 10th St. Minneapolis 3, Minn.



# when a vacation is not a vacation

HER family told her she needed a "good rest." Her physician would have told her that while there is much to be said for a sun-filled vacation, it cannot rebuild depleted hemoglobin. • Specific therapy for these common hypochromic anemias is elemental iron, approximately 70 mg. three times daily. Three IBEROL tablets supply this therapeutic dose of iron plus generous amounts of other blood-building elements—the B vitamins including $B_{12}$ and folic acid, stomach-liver digest to conserve the hematopoietic factors and ascorbic acid for its nutritional value and for its reported action as a reducing agent for the iron. • For prophylaxis in pregnancy, old age or convalescence, one or two tablets are usually sufficient. In pernicious anemias, IBEROL may be used as a supplemental hematinic to established antipernicious anemia treatment. Your pharmacy has an ample supply of IBEROL in bottles containing 100, 500 and 1000 sugar-coated red tablets.

**THREE IBEROL TABLETS:**
the average daily therapeutic dose for adults, supply:

| | |
|---|---|
| Ferrous Sulfate (representing 210 mg. elemental iron, the active ingredient for the increase of hemoglobin in the treatment of iron-deficiency anemia) | 1.05 Gm. |
| **Plus these nutritional constituents:** | |
| Thiamine Mononitrate (6 times MDR*) | 6 mg. |
| Riboflavin (3 times MDR*) | 6 mg. |
| Nicotinamide (2 times RDA†) | 30 mg. |
| Ascorbic Acid (5 times MDR*) | 150 mg. |
| Pyridoxine Hydrochloride | 3 mg. |
| Pantothenic Acid | 6 mg. |
| Vitamin $B_{12}$ | 30 mcg. |
| Folic Acid | 3.6 mg. |
| Stomach-Liver Digest | 1.5 Gm. |

*MDR—Minimum Daily Requirement
†RDA—Recommended Daily Dietary Allowance

Abbott

Specify **IBEROL®** *tablets*

(IRON, $B_{12}$, FOLIC ACID, STOMACH-LIVER DIGEST, WITH OTHER VITAMINS. ABBOTT)

PENETRATING ANTIBACTERIAL!

Can that "Sore Throat" patient get BOTH? . . . .


THE DOUBLE-CLEANSING THERAPEUTIC GARGLE

*Cēpacol is widely prescribed and recommended for:*

- Sore throat associated with the common cold and influenza
- Tonsillitis
- Pharyngitis
- Pre- and post-tonsillectomy
- Irritation from postnasal drip

*Alkaline, non-toxic . . . ideal for daily use as gargle or spray.*

# Washington Letter

*(Continued from page 30)*

The Science Foundation now is operating on a first year appropriation consisting of a quarter of a million dollars. For subsequent years, $15,000,000 is authorized. The Foundation will integrate all scientific research, government and private, award scholarships, and act as a clearinghouse on scientific information.

### Committee on Indians

Dr. Haven Emerson, a veteran who has been revered by public health workers for a quarter of a century, at last is in a position to do something about health conditions among American Indians, a cause for which he has crusaded diligently.

At his urging, the Association of American Indian Affairs formed a committee of nationally prominent physicians to prosecute the claim of the Indians for more liberal consideration from the federal government. Members include Dr. William C. Menninger of Topeka and Dr. Franklin D. Murphy, dean of the California School of Public Health.

### Washington Notes

**Question of induction** standards continues to puzzle the Army. Six months ago the rule was to induct men with eleven years of education regardless of their score on the qualification test. Now the Army has dropped the require-

*(Continued on page 138)*


*"He has devised a new technic for lancing a boil."*

# Stops POISON IVY DERMATITIS ...fast!


**NEOXYN** brings dramatic and rapid relief from the itching of poison ivy, poison oak and poison sumac dermatitis, followed by progressive remission of local inflammation.

Thorough clinical testing in a large series of controlled cases showed 90 per cent effectiveness—relief in less than one hour, and definite evidence of healing within twenty-four hours.

**NEOXYN** is a water-clear solution, clean and easy to use . . . no chalky deposit, no stain, no grease. One treatment is usually sufficient when directions are followed.

**NEOXYN** is available at prescription pharmacies in cartons containing a 1 ounce bottle, 2 sterile swabs and 2 wooden blades.

**WILLIAM H. RORER, Inc.** BREXEL BLDG., INDEPENDENCE SQUARE PHILADELPHIA 6, PENNSYLVANIA

**NEOXYN IS EASY TO USE . . . NOT A BIT MESSY . . . AND HIGHLY EFFECTIVE**

1. Wash the affected area with soap and water.
2. Pour some Neoxyn in a clean dish.
3. Swab freely on and around the affected area.
4. Scrape area with a Neoxyn-moistened blade.

**TRY NEOXYN ON YOUR NEXT CASE OF RHUS DERMATITIS. WRITE US ON YOUR LETTERHEAD FOR A TEST PACKAGE**

# SEDORZYL (WAMPOLE)

TRADEMARK

**An Effective New Combination:** ORGANIDIN® EPHEDRINE PHENOBARBITAL

## For Non-Narcotic Relief of Respiratory Congestion!

IN MILD ASTHMA, ALLERGIC SEIZURES, CHEST COLDS, TRACHEITIS, BRONCHITIS, HAY FEVER

*For the Patient With Respiratory Congestion*, SEDORZYL (Wampole) provides prolonged, satisfactory relief and unobstructed breathing through its unique alliance of ORGANIDIN® (iodine organically combined by reaction with glycerin), EPHEDRINE and PHENOBARBITAL.

### LIQUEFYING EXPECTORANT

As recently pointed out,[1] the "Iodides are among the oldest, time-honored remedies" for asthma, producing a thin bronchial secretion which modifies and loosens characteristically tenacious and highly viscous mucus obstructing the air passages.

In the SEDORZYL formula iodine is present in an exceptionally well tolerated form as ORGANIDIN (Wampole), representing ¼ grain of this expectorant halogen (organically combined by reaction with glycerin) per 5-cc. teaspoonful of the new respiratory decongestant.

## IMPROVED RESPIRATION

Ephedrine, as Goodman and Gilman note,[2] "Influences respiration in two ways, by dilating the bronchioles . . . and by a direct stimulation of the respiratory center . . . Even in normal subjects . . . ephedrine increased respiratory minute volume by about 20 per cent."

Each 5-cc. teaspoonful of SEDORZYL provides ¼ grain of ephedrine sulfate.

## MILD SEDATION

The expectorant, bronchodilating, and respiratory stimulant elements of the SEDORZYL formula are complemented and balanced by a small amount of phenobarbital (⅛ grain per 5-cc. teaspoonful) which assures comfort and offsets the side effects of ephedrine during prolonged decongestant therapy.

## COMPOSITION

Each 5-cc. (teaspoonful) of SEDORZYL contains:

| | |
|---|---|
| PHENOBARBITAL | ⅛ grain |
| Warning: May be habit forming. | |
| ORGANIDIN® | 10 minims |
| (Iodine organically combined by reaction with glycerin). 10 minims contains ¼ grain iodine. | |
| EPHEDRINE SULFATE | ¼ grain |
| BENZYL ALCOHOL | 1 minim |
| ALCOHOL | 3.5% |

## DOSAGE

One teaspoonful of SEDORZYL is given initially every 2 to 4 hours. The dose interval is then lengthened. Children are given proportionately less.

SEDORZYL is supplied in 1-pint bottles.

*Samples and Literature on Request*


1. Feinberg, S. M., Malkiel, S., and Feinberg, A. R.: The Antihistamines. Year Book Publishers, 1950.

2. Goodman, L., and Gilman, A.: Pharmacological Basis of Therapeutics. Macmillan Co., 1941.

ment of formal education. Regardless of education or test score, a man is accepted if the interviewing officer thinks he's soldier material. Concern of manpower officials here is that under this system the Army won't take enough of the marginal men.

**Army's April call-up** of 300 medical reserves was the first time the Rusk committees, local and national, had an opportunity to exercise authority on a national scale.

**Army reserve officers** are waiting to see if two reports, reviewing reserve problems but not yet released, will contain recommendations regarding promotion policies; some reserve officers—perhaps without sufficient justification—complain that regular Army medical officers get a lion's share of the promotions.

**Defense Armed Forces** Medical Policy Council has set up three medical report forms, replacing 10 separate major reports and a number of minor ones.

**Sen. Hubert Humphrey** (D., Minn.) conducted an investigation of the VA medical department for two months before deciding that his subcommittee would have to ask for more than promises from the VA administrator.

**Semisecret sessions** in Washington suggest that action may come soon looking toward another emergency maternal and infant care program; the last one became a center of controversy before it was ended at the close of World War II.

**Hospitals** unable to get building materials are urged to contact the Office of Civilian Requirement in National Production Authority. However, they should offer evidence that neither normal nor substitute supplies are available locally.

## *Doctor to Doctor*

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The May 1 winner is

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*Oklahoma City*

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No. 2
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*"I told her that, with her negative serology, she could indulge with impunity. Now she's back. She thought I said 'immunity.'"*

# *Mercurial Diuretics and Dehydration*


**Fever in some patients after treatment with a mercurial diuretic is explained as due to dehydration.***

**Untoward reactions following administration of a mercurial diuretic, in a case reported by Rechtschaffen and Gittler,** were believed due to excessive loss of fluids and electrolytes.**

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**Sweetened carbonated beverages provide quick energy in the form of easily assimilated invert sugar to the febrile patient.**

**Bottled carbonated beverages are attractive to the patient and require no time for preparation. They are bacteriologically safe.**

*Merkin, L.: Untoward Effects of Treatment with Mercurial Diuretics, N. Y. State J. Med. 49:2429, 1949.

**Rechtschaffen, J. S. and Gittler, R. D.: Acute Dehydration Due to a Mercurial Diuretic, JAMA 144:237, 1950.

THE NATIONAL ASSOCIATION OF THE BOTTLED SOFT DRINK INDUSTRY


*American Bottlers of Carbonated Beverages*

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# The Antihistamines

(Continued from page 58)

such as light, heat, cold, or pressure. The manifestations include dermatitis, arthritis, asthma, migraine, and disturbances of the genitourinary and gastrointestinal tract and vascular systems.

The antihistaminic drugs have effects related to those of atropine and have been tried with apparently beneficial effects in some cases of parkinsonism, although the derivatives of belladonna are still preferred. The antihistamines have been especially recommended for relief of pruritus from any cause. The drugs have suppressed sensitivity to liver extract used for treatment of pernicious anemia.

Since common allergic symptoms are found in approximately 10% of people and in about one-third of cases these manifestations appear early in life, several allergists have emphasized the value of antihistaminic drugs for children with allergy, including such conditions as hay fever, allergic rhinitis, bronchial asthma, and urticaria, as well as contact dermatitis, physical and food allergies, and similar disorders. Because of the postulated element of sensitivity in tuberculosis and rheumatic fever, the antihistamines have been used with reported encouraging results in controlling exudation.

## Side Effects

The antihistamines may produce various side effects. These include local irritation, establishment of sensitivity to the drug, sedation which varies with the particular drug, the individual response, and the dose from slight sedation to deep sleep. Other effects are inability to concentrate, dizziness, and disturbed coordination. The suggestion has been made that a cerebral stimulant be given coincidentally when such disturbances are beyond reasonable tolerance.

Other investigators have reported lassitude, muscular weakness, nausea, anorexia, dryness of the mouth and other mucous membranes, and occasional blood dyscrasias. Because of these potentialities, the beginning dose should be the smallest adequate to relieve symptoms.

Emanuel Schwartz compared the effects of Benadryl, Pyri-

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benzamine, Neo-Antergan, Antistine, Histadyl, and Neohetramine (*Ann. Allergy* 5:770-777, 1949). Observations were made of 781 allergic patients who were given dosages adjusted for equally satisfactory results. He noted side effects with all six drugs. Drowsiness was most frequent and pronounced with Benadryl, and least notable with Neohetramine. He concludes that Neohetramine is the least toxic in therapeutically effective doses.

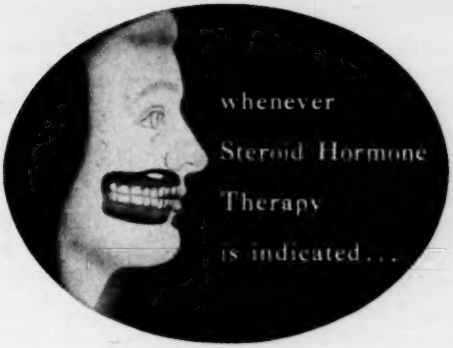
Similarly, Neohetramine was reported by Leo H. Criep (*J. Pediat.* 34:414-420, 1949) to be as efficient as other antihistaminic drugs for the treatment of allergic states and less toxic for adults and children. However, Criep noted that some children "will be relieved by one antihistaminic drug and others by a different drug." Because the side reactions from Neohetramine are definitely less than those observed from other drugs, he believes its use is safer for children.

Another preparation, Chlor-Trimeton, is said to be 20 times more effective than Trimeton and not more toxic. The claim has been made that Chlor-Trimeton is more effective than other antihistamines and has fewer side effects, but the record does not indicate the total number of antihistamines studied nor the extent to which the observations were controlled.

The difficulty in interpreting such studies is that all patients do not exhibit similar sensitivity reactions nor does a patient react similarly on successive occasions. The factors which modify physical and mental sensitivity are so numerous that evaluation is exceptionally difficult.

Feinberg, Malkiel, and Feinberg suggest that the physician become familiar with one member of each of three groups of antihistaminic drugs. The first group includes Antistine, Neohetramine, Theophorin, and chlorcyclizine (Di-Paralene, Perazil), which these investigators consider less sedative and usually less potent. The second group, considered as potent and moderately sedative, includes chlorothen, Chlor-Trimeton, Diatrin, Histadyl (Thenylene), Neo-Antergan, Pyribenzamine, Pyrrolazote, and Trimeton. The third group contains Benadryl, Decapryn, and Phenergan, which are considered to be potent and highly sedative.

Obviously the choice of a preparation in a particular instance will depend on the symptomatology of the patient, the

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1. Escamilla: R. F.: Am. Practitioner 3:425, March, 1949
2. Lisser, H., et al.: Postgraduate Med. 8:393, Nov., 1950

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character of his reaction, his personality, and his previous experiences with antihistaminic drugs. Thus Sulzberger asks each of his patients to indicate which antihistamines he has tried previously.

The value of antihistamines has been so positively demonstrated that avoidance of these drugs because of the difficulty of selection of the one best suited to the individual patient would be folly. While use of the drugs may be considered as still experimental, the significance of this status means not only restricted administration when definite contraindications are known but also careful extension of use when the nature of the condition concerned would seem to indicate possible benefit.

### Clinical Uses

Most allergists are convinced that the proper treatment of *hay fever* is to determine the offending allergen and thereafter to desensitize the patient, meanwhile using the antihistaminic drugs for relief. Others assert that symptomatic treatment, including the use of the antihistaminic agents, ephedrine, and phenobarbital, be tried but that when these measures fail and the allergen cannot be abolished or avoided, desensitization should be attempted.

Many allergists believe that antihistamines are not dependable for asthma and prefer ephedrine, phenobarbital, or other proved medicaments. Some assert that the antihistamines are helpful only when combined with epinephrine.

The value of the antihistaminic drugs in *allergic skin diseases* is well established, especially for urticaria.

The most controversial of all the uses of the antihistamines is for the prevention and treatment of the *common cold.* If the common cold is considered as usually beginning as a form of vasomotor rhinitis with the release of histamine into the tissues and subsequent edema and exudation, the application of an antihistaminic drug in the first twenty-four hours should relieve symptoms and, at the same time, condition the tissues against secondary invasion by bacteria.

In industry, antihistaminic drugs have been used in this way in many thousands of cases without harm from the dosages usually prescribed. In Great Britain nasal secretions from persons with colds were instilled into the noses of volunteers

and the effects of antihistaminic preparations and placebos were compared. Other similarly controlled experiments have been made with patients who reported as soon as symptoms began.

The mass of this evidence seems to indicate that results were just as good with placebos, with aspirin, with the usual combinations of aspirin, phenacetin, and caffeine, or with many other preparations as when antihistamines were used. Yet medical periodicals contain numerous reports from physicians in general practice, as well as from industrial physicians, that the duration of colds is shortened, absenteeism is reduced, and the severity of the conditions in general is moderated when antihistamines are given during the first twenty-four hours of symptoms.

Obviously, the evidence has not been sufficient to warrant the Council on Pharmacy and Chemistry to accept claims for the value of antihistaminic drugs for the prevention and treatment of the common cold. Since self-treatment with such drugs by hundreds of thousands, if not millions, of persons and the treatment of hundreds of thousands of persons in industry is likely to go on, the next two or three years may yield, in the end, mass clinical evidence adequate to determine the ultimate decision.

Much emphasis, perhaps too much, has been placed by a number of observers on the danger of sedation resulting from the use of antihistaminic drugs. Obviously, sedation can be either helpful or harmful. The incidence of profound sedation varies with the preparation, the circumstances, and the dosage. One observer found the lowest incidence of sedation to be 7% for Neohetramine, with an incidence of 35% for Hydryllin, 33% for Neo-Antergan, and 26% for Pyribenzamine. Another observer found side effects in 61% of patients given Benadryl.

Feinberg warns against self-diagnosis and treatment with antihistamines on the grounds that a so-called cold may actually be scarlet fever, virus pneumonia, or an infected sinus. This warning is no doubt correct scientifically. At the rate of 3 to 4 colds annually per person in the United States, the total incidence would be something like 600,000,000 colds a year, a number obviously quite beyond the possibility of

(Continued on page 150)

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1. Bradley, J. E.: Address before the Clinical Session, A. M. A., Washington, Dec. 6, 1949.
2. Bradley, J. E.; et al.: J. Pediat. 38: 41 (Jan.) 1951.

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"Pain, not merely the discomfort or itching, was the indication for treatment. Protamide (1.3 cc, the contents of one ampul) was given daily intramuscularly. No other local or systemic medications were given.

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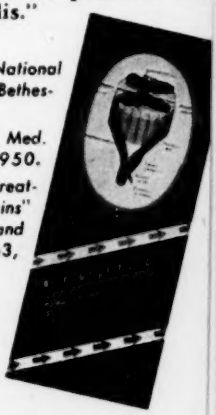
"The advantages of Protamide are the simplicity and absence of pain in administration, lack of reactions, and apparent safety.

"Costello[2] found that Protamide was effective in the relief of the posterior root pain of tabes dorsalis."



* *U. S. Naval Hospital, National Naval Medical Center, Bethesda, Maryland.*

*1. U.S. Armed Forces Med. Journal, September, 1950.*

*2. Costello, R. T. New treatment for "lightning pains" of tabes dorsalis, Urol. and Cutan. Rev. 51: 260-263, May, 1947.*

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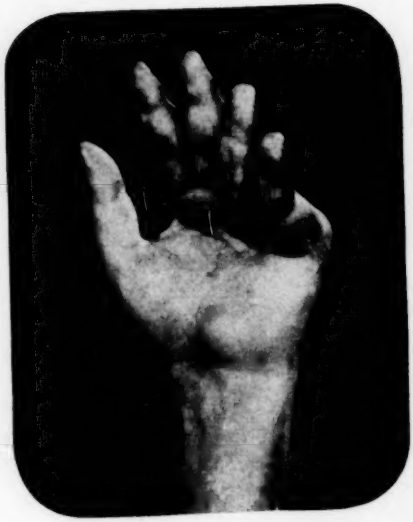

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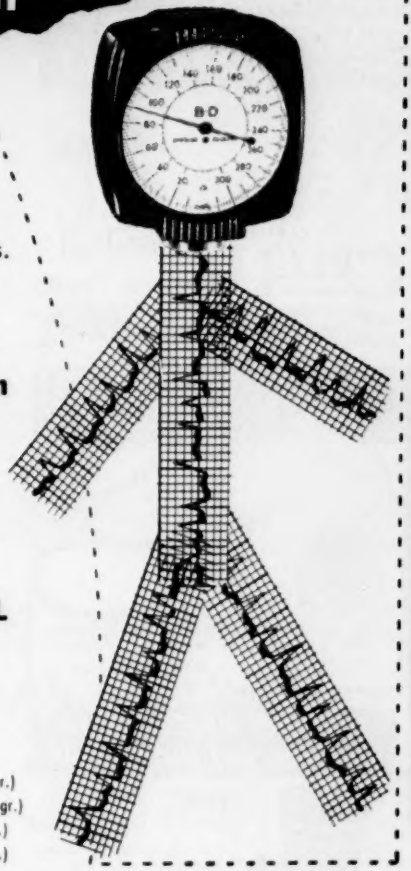


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One of my patients was in the hospital delivery room having severe labor pains without much progress. It was her first experience and she started to get weepy. I tried to reassure her and told her among other things to keep a stiff upper lip.

Her reply was, "But, doctor, I don't hurt there."—D.A.A.

*"You know about Miss Jones who said she'd do anything for a fur coat? Well, when she got it she couldn't button it."*—I.H.O.

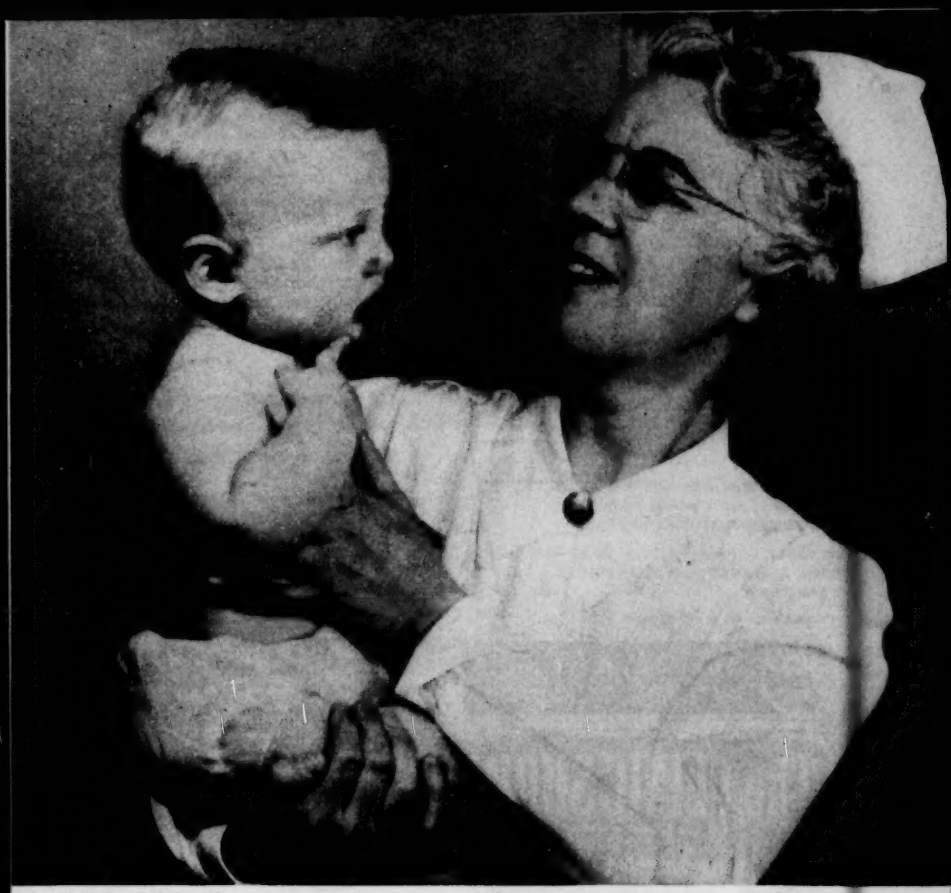
## *Progressive Complaint*

My 12-year-old son was very concerned over two small pimples on his face and asked me about them.

I said casually, "I guess that's adolescence."

The following day he came to me and asked, "What did you say I had yesterday? I have a little more of it today."—E.K.

*"Yes, I'm getting more exercise. Instead of just sitting, I rock the chair a little."*



Trade Mark—Reg. U. S. Pat. Off.

# You can safely recommend Koroseal baby pants

B. F. GOODRICH Koroseal baby pants have been put through a long series of scientific tests in actual use on babies. Also, Koroseal itself has undergone hundreds of allergy patch tests. These tests continue to prove Koroseal is extremely well adapted for use in baby pants.

Soft and pliable, Koroseal baby pants hold the diaper comfortably in position. They have full cut seats and roomy legs.

Even under hard daily use, Koroseal baby pants will not crack or get sticky. They wash easily with a quick sloshing in warm sudsy water. Koroseal is non-toxic and acid-resistant. Pediatricians can recommend Koroseal baby pants with confidence. They are perfect for baby and mean much less work for mother.

These comfortable pants come in 2 styles; the snap-on type, with 3 sure-grip snaps on each side, which open flat to make changing fast and easy, and the ever-popular elastic type.

*The B. F. Goodrich Company, Sundries Division, Akron, Ohio.*

**B.F.Goodrich**

**FIRST IN RUBBER**

## *Home Work*

The office nurse purchased a tube of household cement for a few odd repairs around the office. Inadvertently, she placed the tube in the drawer containing lubricating jelly.

During office hours she was horrified when the doctor appeared at the door of the examining room with the tube of cement in one hand and a glove on the other and said, "What do you want me to do—take her home with me?"—D.R.

## *Men Only*

*(Direction at top of psychology examination paper seen by R.H.)*

"Testes will occupy every other seat."

*"What a reflex!"*

## *Next Question!*

A 67-year-old woman with numerous vague symptoms which fitted no particular disease syndrome was in my office. The psychiatric section of the history brought out my best nondirective technic.

"Are you living with your family?"

This question brought a brief evaluation and silence. On more direct probing, I asked, "How do you get along with your husband?"

"About once a week," was the reply. —G.L.F.

## INDEX TO ADVERTISERS

***The publishers are not responsible for any errors or omissions.***


# A MAJOR RESPONSE

Veratrite, for routine use, is a reliable hypotensive agent without serious side-effects. Circulatory improvement, a gradual fall in blood pressure, and a new sense of well-being can be obtained without complicated dosage schedules or daily dosage adjustments. Economy—a point of importance in long-range therapy—is in favor of Veratrite in the management of the great majority of hypertensive patients.

*Supplied:* Bottles of 100, 500, 1000 at prescription pharmacies everywhere.

***LITERATURE AND SAMPLES ON REQUEST***

Each VERATRITE Tabule contains:
Veratrum Viride 3 CRAW UNITS*
Sodium Nitrite . . . . 1 grain
Phenobarbital . . . . . ¼ grain
Beginning Dose: 2 tabules t.i.d., after meals.

*Biologically Standardized for toxicity by the Craw Daphnia Magna Assay.

# Veratrite

IRWIN, NEISLER & COMPANY DECATUR, ILLINOIS

# same chef... same recipe... *apparently* same salad *But...*

a study at Rutgers University revealed variations in mineral content in vegetables*

| | | LETTUCE | | TOMATOES | |
|---|---|---|---|---|---|
| | | Highest | Lowest | Highest | Lowest |
| Percentage of dry weight | Total Ash or Mineral Matter | 24.48 | 7.01 | 14.20 | 6.07 |
| | Phosphorus | 0.43 | 0.22 | 0.35 | 0.16 |
| Milliequivalents per 100 grams dry weight | Calcium | 71.0 | 16.0 | 23.0 | 4.5 |
| | Magnesium | 49.3 | 13.1 | 59.2 | 4.5 |
| | Potassium | 176.5 | 53.7 | 148.3 | 58.8 |
| | Sodium | 12.2 | 0.0 | 6.5 | 0.0 |
| Trace Elements parts per million dry matter | Manganese | 169 | 1 | 68 | 1 |
| | Iron | 516 | 9 | 1938 | 1 |
| | Copper | 60 | 3 | 53 | 0 |
| | Cobalt | 0.19 | 0.00 | 0.63 | 0.00 |

*Firman E. Bear report. Rutgers Univ.

Although they appear identical, one of the salads completely overshadows the other in vital nutrient content.

Foods grown in different soils—regardless of similar appearance and taste—vary widely in vitamin, mineral, and trace element content.

Further loss of important nutrients are caused by processing methods, storage, and faulty preparation.

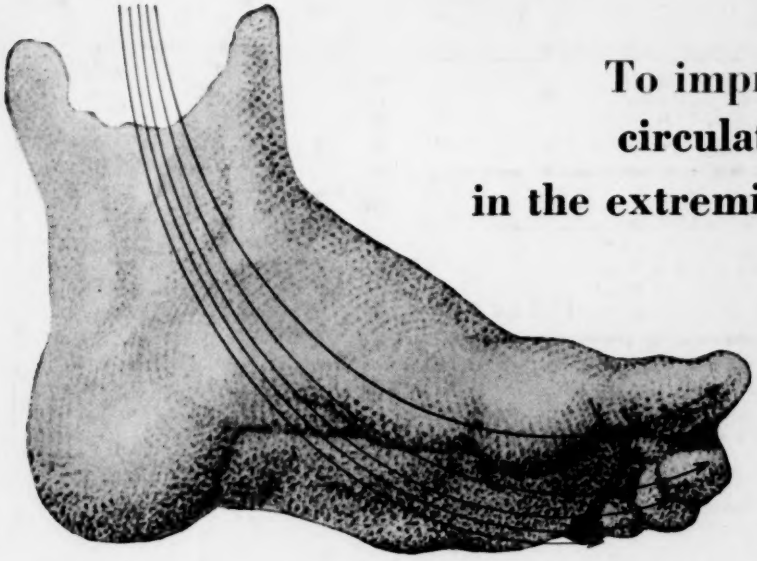
As a *true* protective measure against the elusive nutritional variations in food, VITERRA provides adequate balanced proportions of vitamins, minerals and trace elements—all in one capsule. Viterra prevents or rapidly corrects the symptoms of multiple vitamin and mineral deficiencies and helps to restore and maintain optimal health and well-being.

**Viterra**

**11 MINERALS and 9 VITAMINS all in one capsule**

| | |
|---|---|
| Cobalt | 0.1 mg. |
| Copper | 1 mg. |
| Iron | 10 mg. |
| Iodine | 0.15 mg. |
| Calcium | 213 mg. |
| Manganese | 1 mg. |
| Magnesium | 6 mg. |
| Molybdenum | 0.2 mg. |
| Phosphorus | 165 mg. |
| Potassium | 5 mg. |
| Zinc | 1.2 mg. |
| Vitamin A | 5,000 USP Units |
| Vitamin D | 500 USP Units |
| Thiamine HCl | 3 mg. |
| Riboflavin | 3 mg. |
| Pyridoxine HCl | 0.5 mg. |
| Niacinamide | 25 mg. |
| Ascorbic Acid | 50 mg. |
| Pantothenate | 5 mg. |
| Tocopherols, Type IV | 5 mg. |

**J. B. ROERIG AND COMPANY** 536 LAKE SHORE DR., CHICAGO 11, ILLINOIS



## To improve circulation in the extremities

# Priscoline

***Orally effective vasodilator***

Numerous reports on Priscoline have shown favorable results in a wide range of peripheral vascular diseases. By decreasing angiospasm, Priscoline frequently relieves pain and, by increasing the blood supply to the periphery, it promotes healing of ulcers and improves function.

Priscoline® (benzazoline) hydrochloride is available in tablets of 25 mg.; elixir, 25 mg. per 4 cc., and in 10 cc. multiple-dose vials, each cc. containing 25 mg.

2-1635M

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